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THE ARCHITECTURAL FORUM

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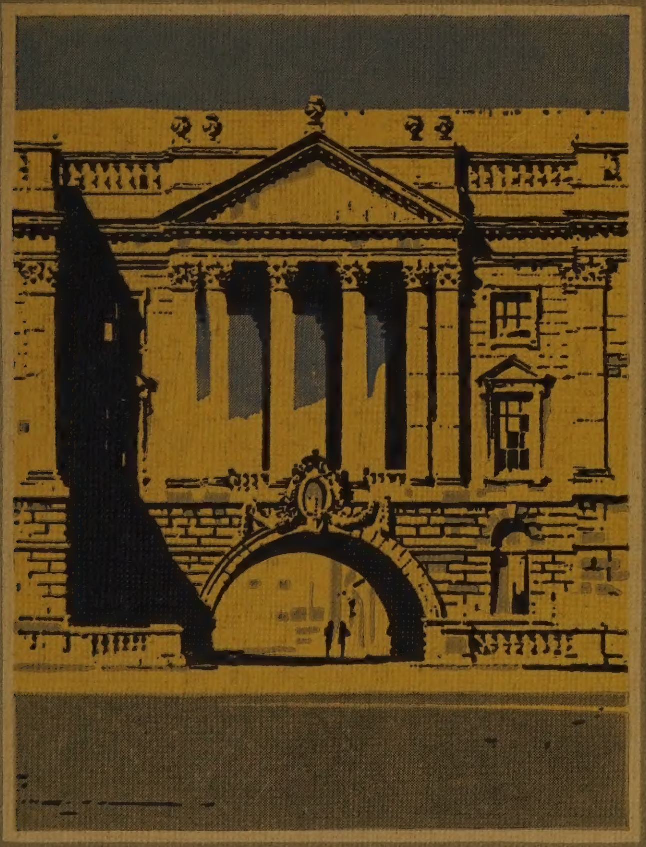

MAY
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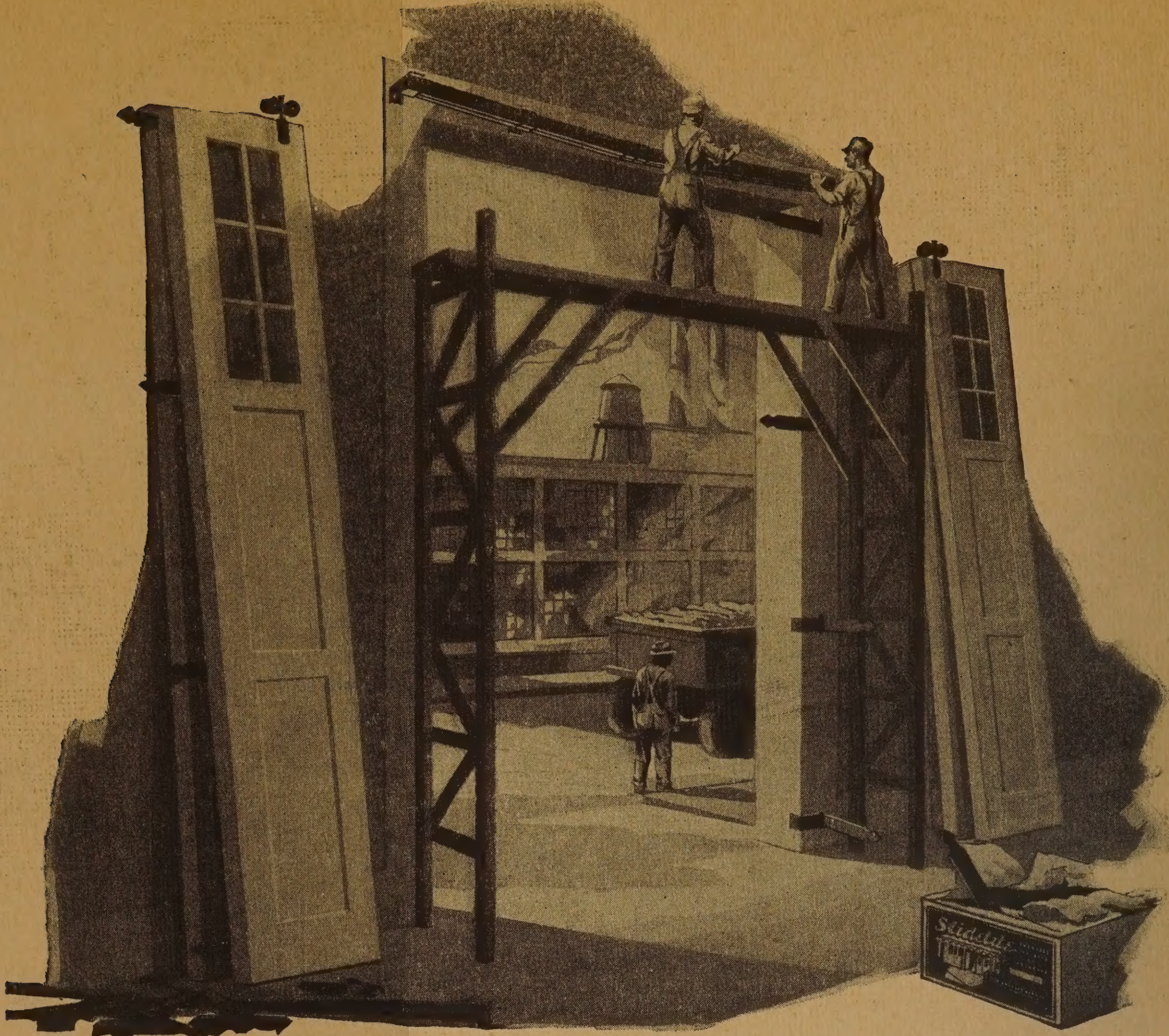

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YOU'D be surprised to know that a large percentage of our volume is in replacements.

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In nearly every case, the trouble is that somebody — builder, architect, owner; generally owner—"saved money" on cheap door-hardware; and the result is that the job has to be done over. A door that's improperly equipped doesn't work; and a door that doesn't work is worse than no door at all.

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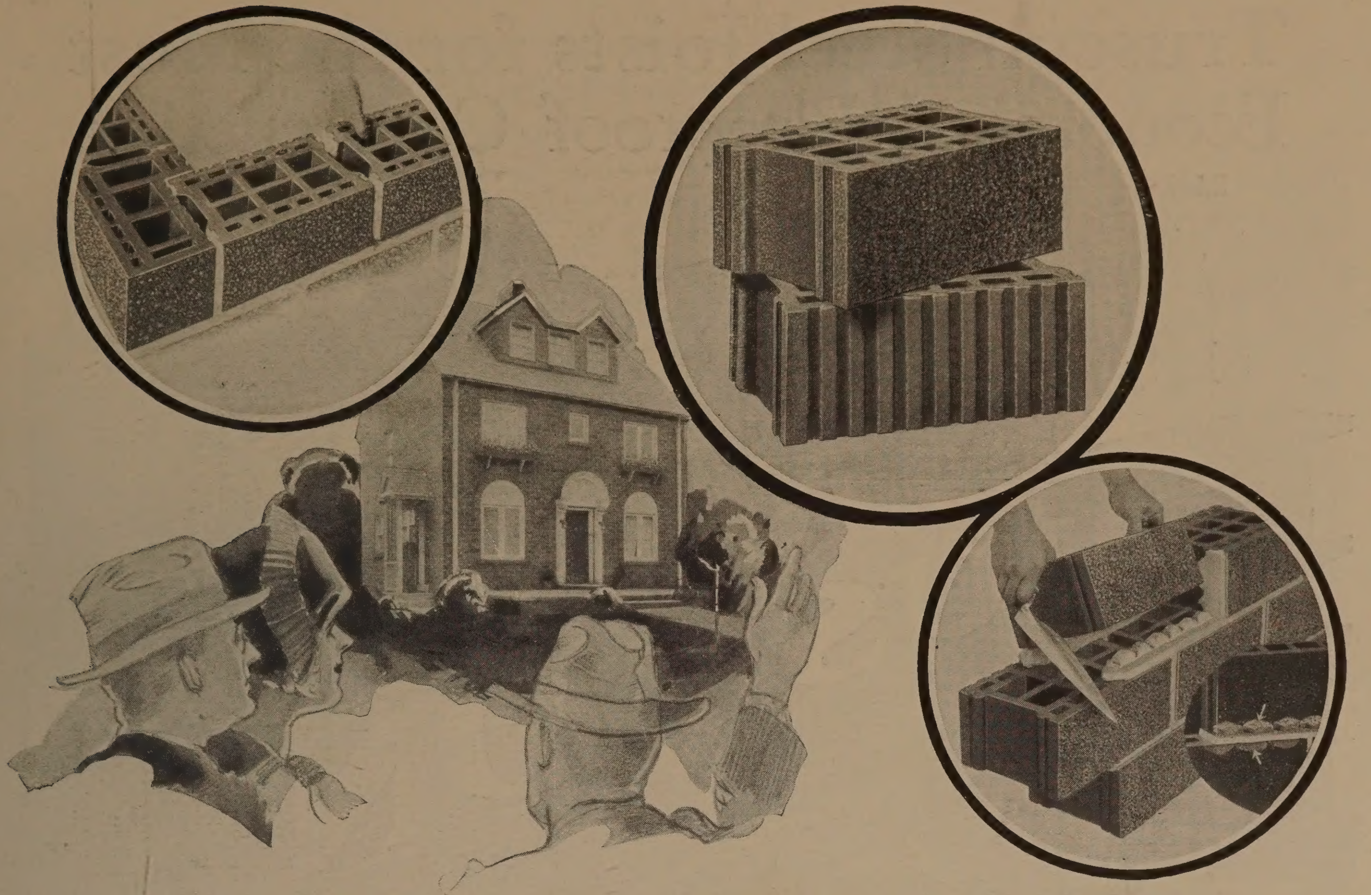

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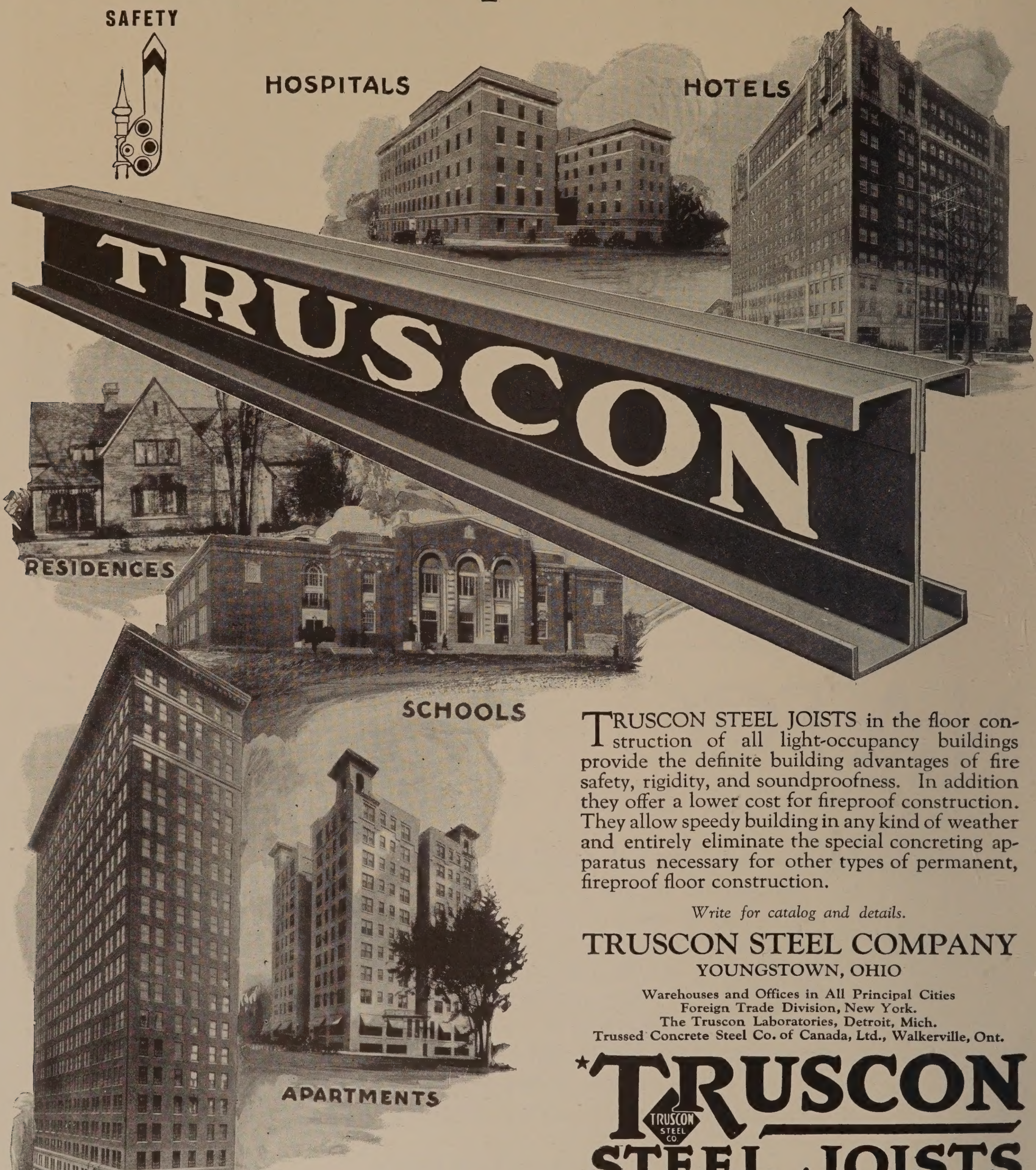

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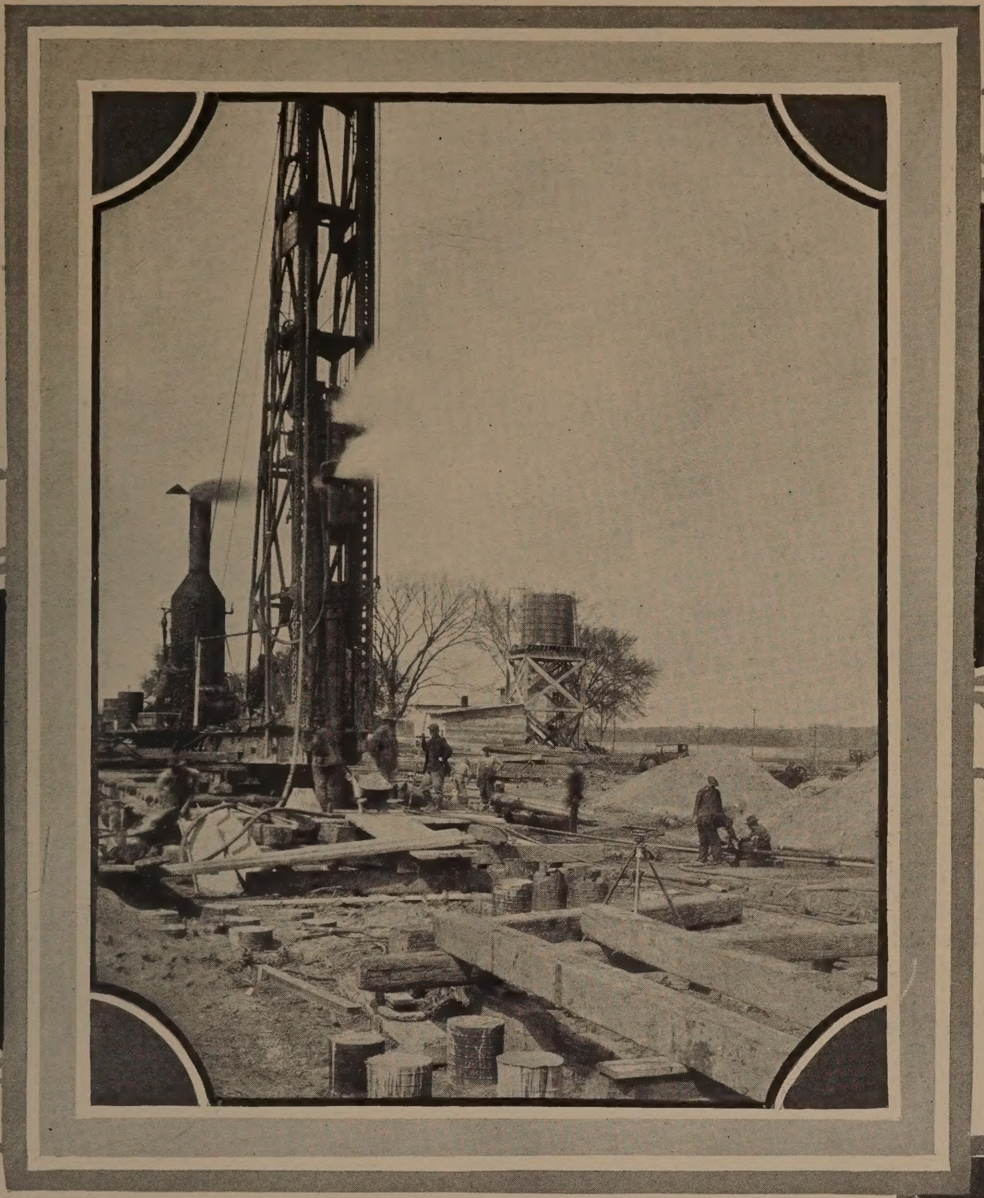

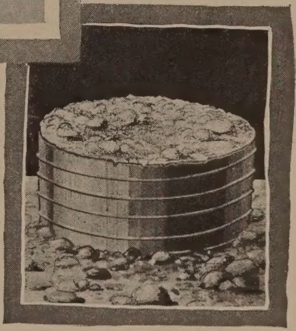

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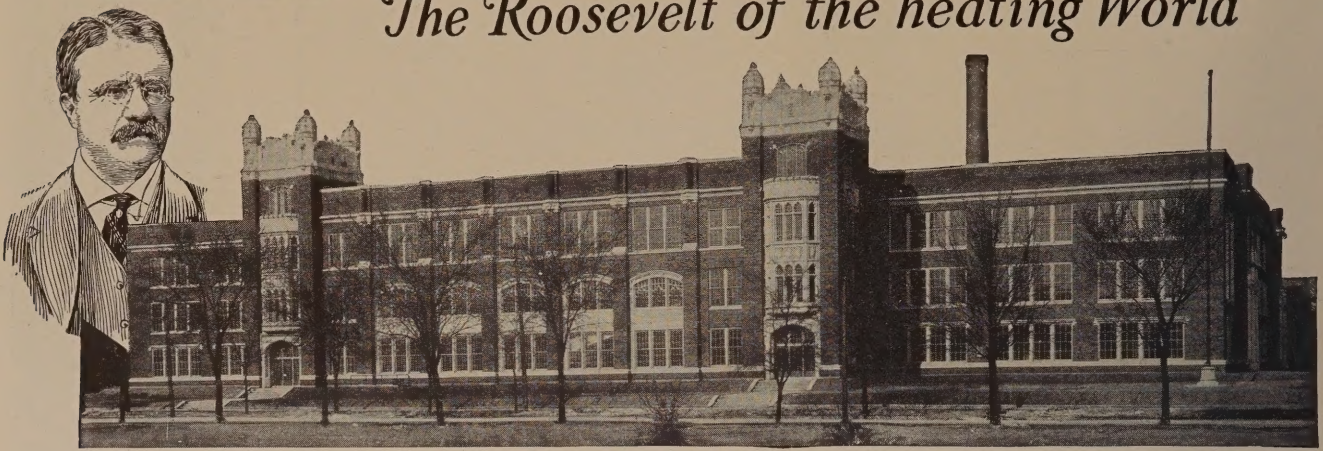

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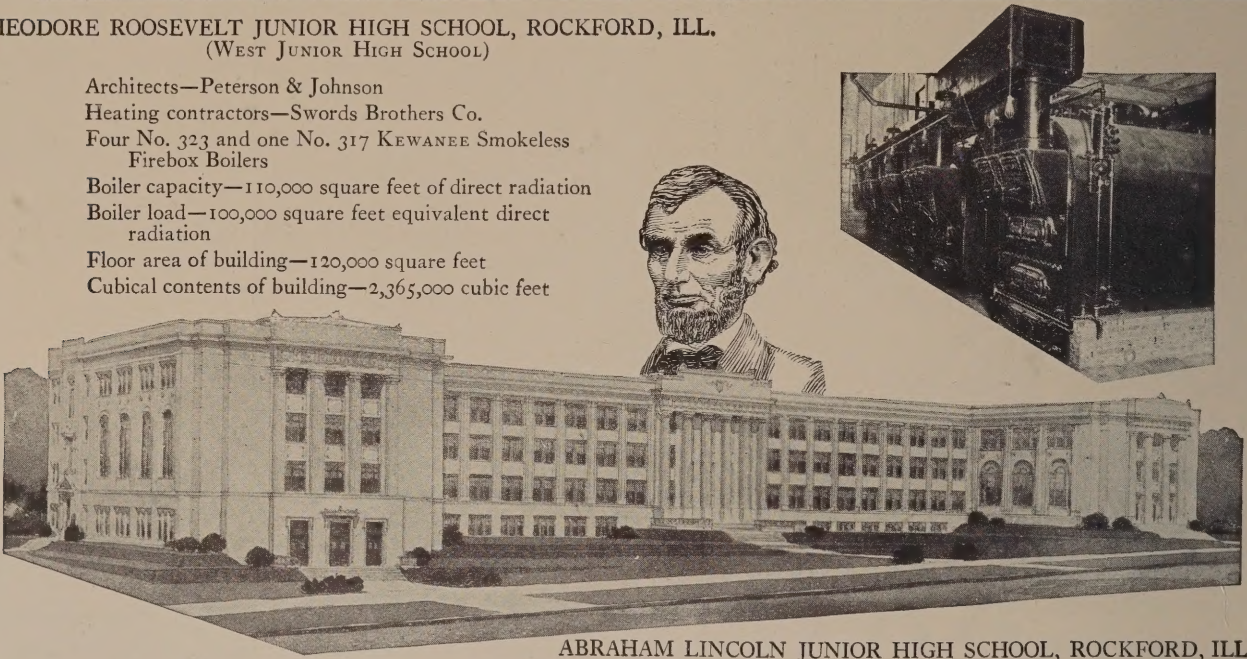

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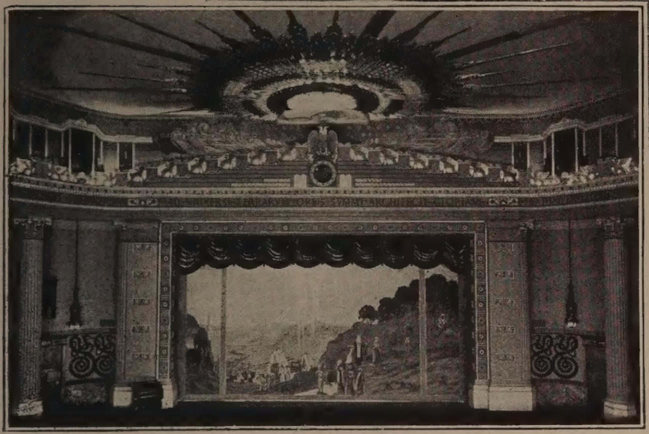

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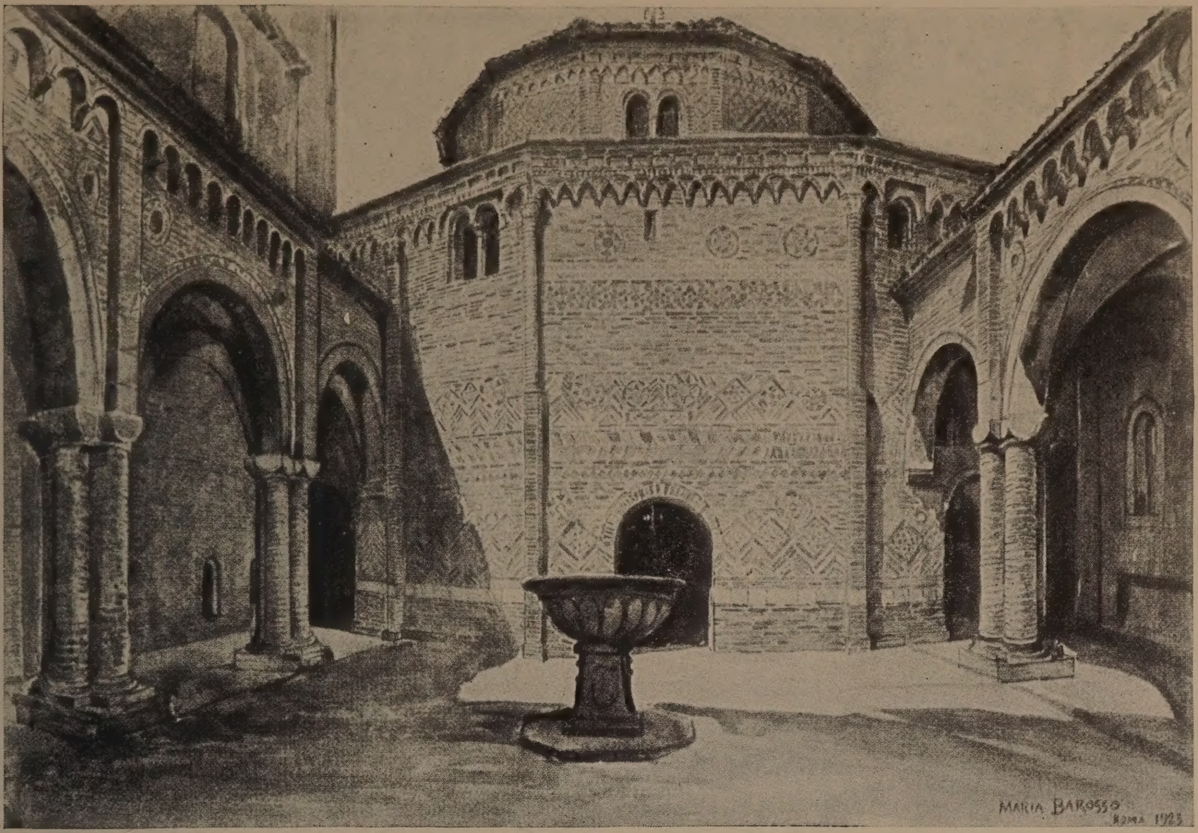

Court of Pilate and St. Sepulcre's, Bologna

BRICKWORK IN ITALY

An Authoritative Book for Architects of Unusual Historical and Reference Value

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THE interest aroused by "Brickwork in Italy" in the architectural profession is a reflection of the book's usefulness as well as of the charming manner in which the subject is presented. The feeling among many prominent architects toward this instructive and entertaining volume is indicated by a few typical commendations quoted here:

> *"I assure you that this book will see many years of use and hold a prominent place in our library."*
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> *"This book is a very valuable addition to any architect's library and is one of the most complete treatises on brickwork of its period that I have ever had the pleasure of seeing."*
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> *"It is a very interesting and useful book."*
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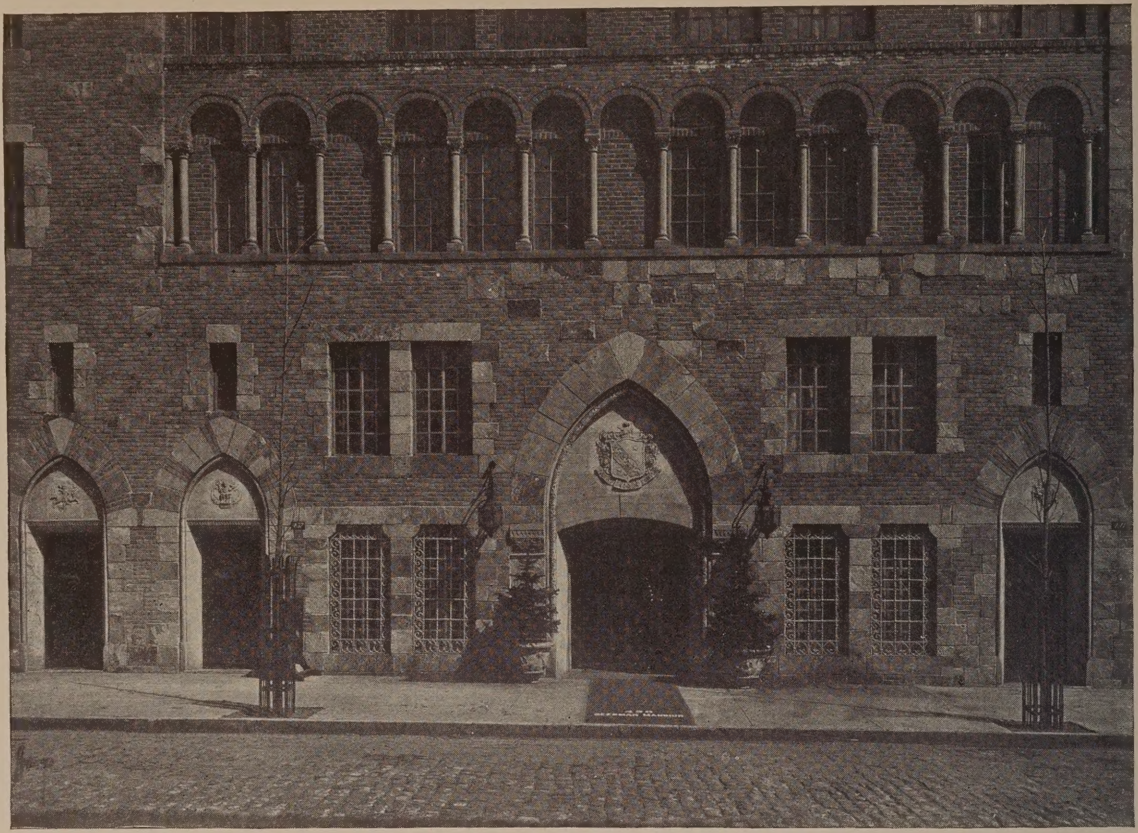

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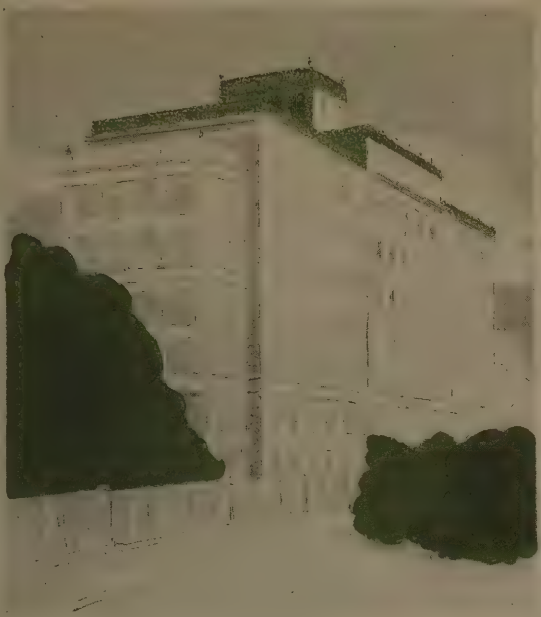

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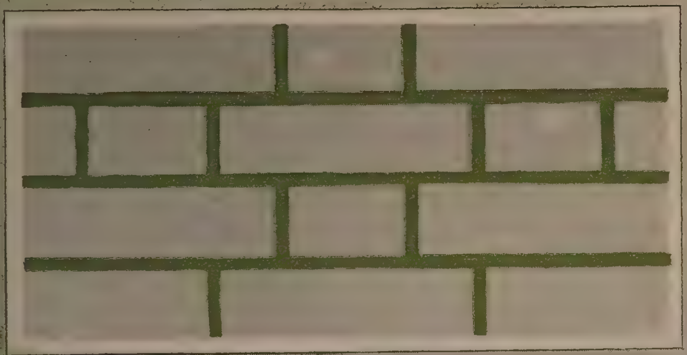

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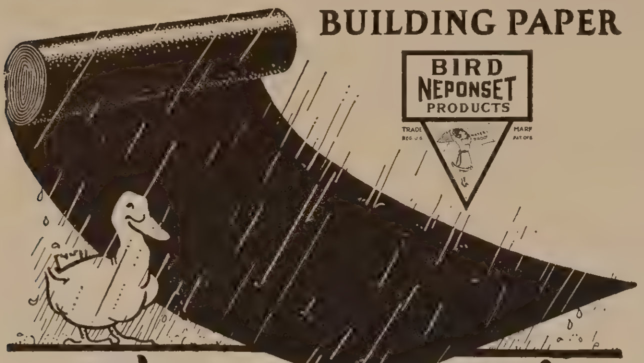

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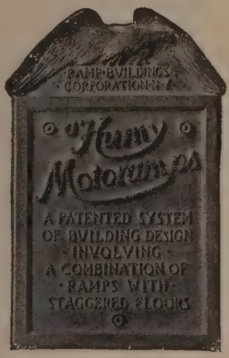

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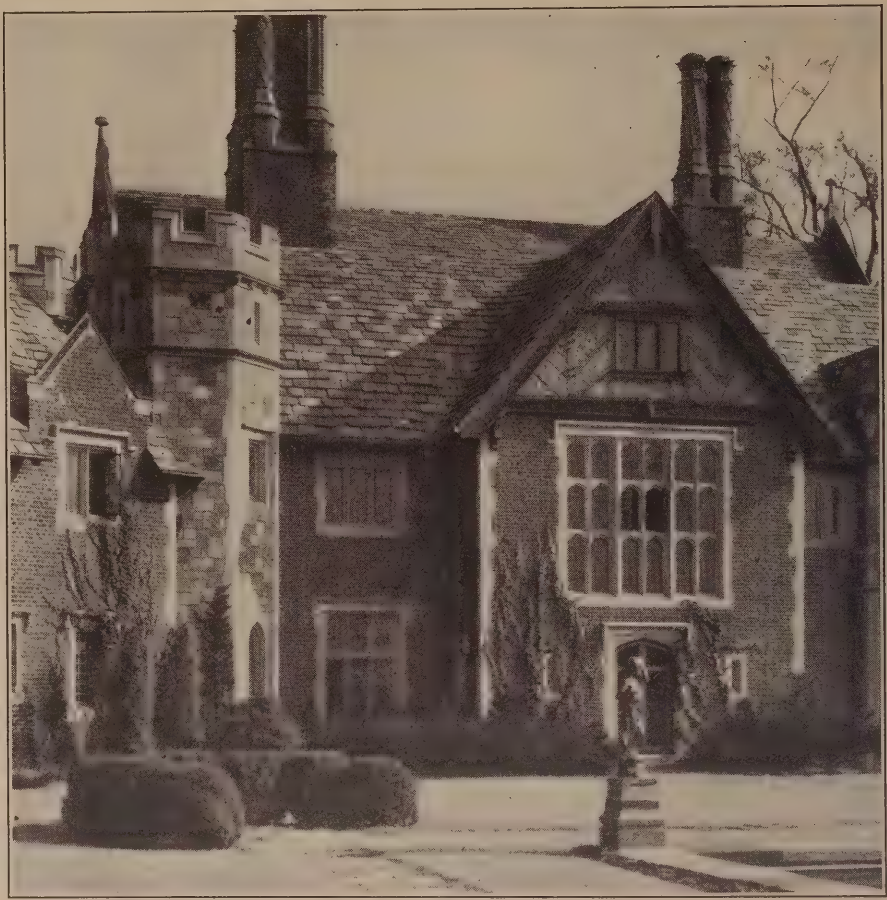

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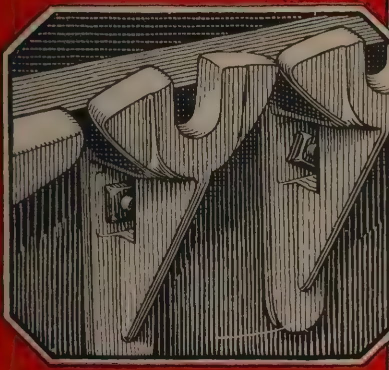

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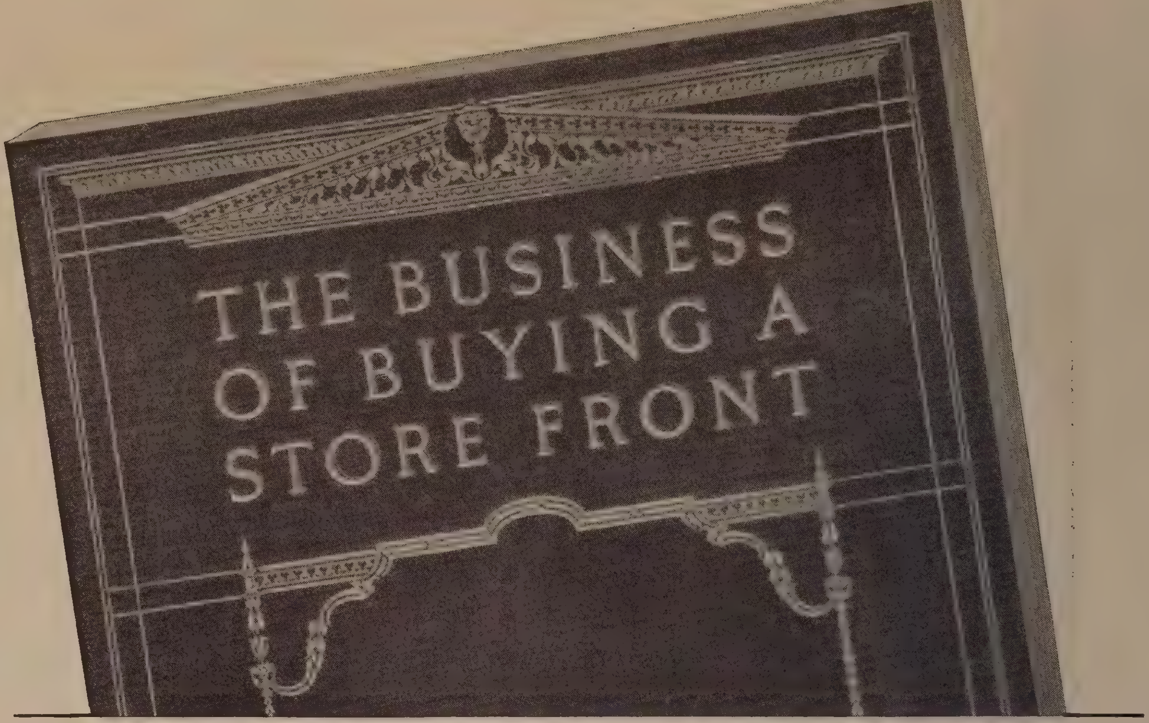

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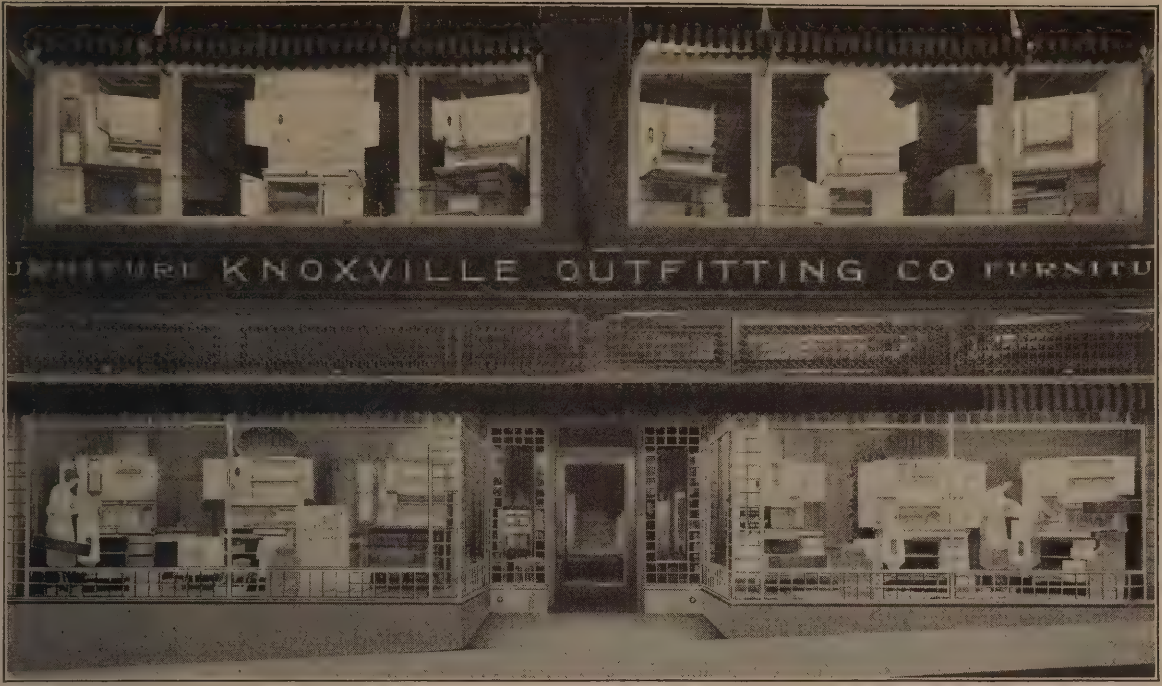

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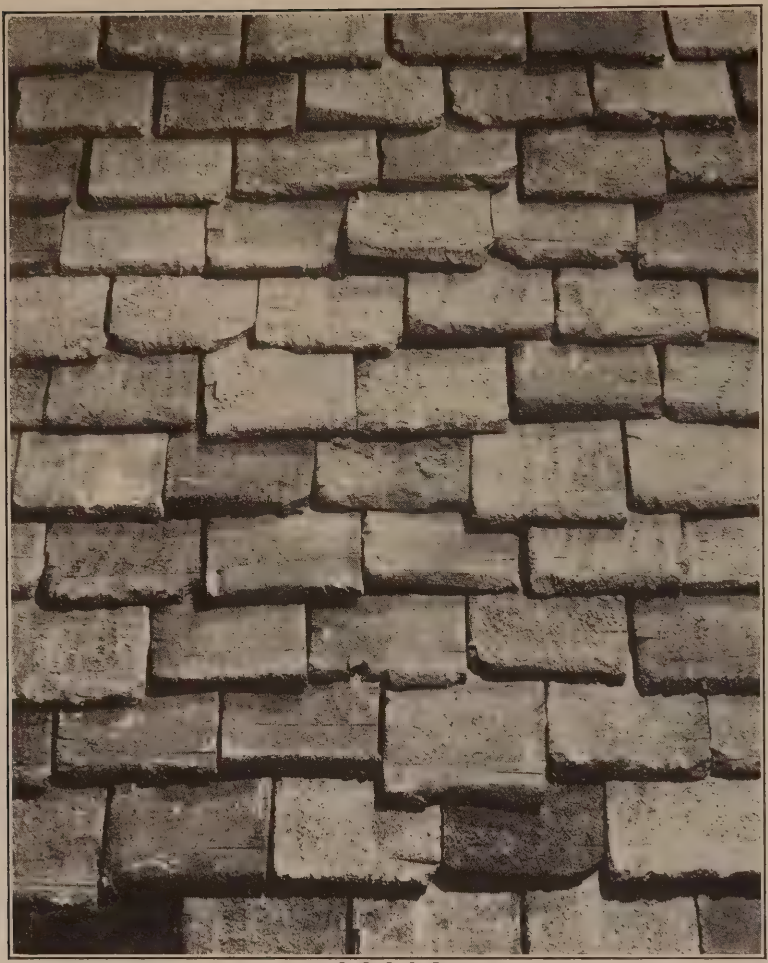

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THE enhancement of the beauty of brickwork through the use of Mortar Colors is becoming more widely recognized every year. Clinton Mortar Colors have played a prominent part in establishing this recognition, having been the standard since 1887.

Color samples and complete information regarding the ten Clinton shades gladly furnished upon request

Clinton Metallic Paint Company **40 Clinton Road** **Clinton, N. Y.**

Clinton Mortar Colors

CLINTON METALLIC PAINT COMPANY CLINTON N. Y.

Residence of George R. Gordon
Camden, Arkansas

Herbert T. McGee, *Architect*
J. T. Mendenhall, *Builder*

Refreshing Colors in Weatherproof Face Brick

Such majestic trees called for a thoughtful selection of materials, and weatherproof face brick in mellow tinted grays was the choice of owner and architect. The result is a charming home to grace a beautiful country estate—and house and trees will endure forever.

Let us help you solve your color-schemes. We offer a complete range of tints and textures.

ACME BRICK

Manufactured by
Acme Brick Company

Plants Owned and Operated
Bennetts and Denton, Texas
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Capacity 170 Million Brick Annually

Office and Display Rooms
(Where Your Color Schemes Can Be Solved)

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Beaumont, Texas
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Galveston, Texas
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Lake Charles, La.
Little Rock, Arkansas
Memphis, Tennessee
New Orleans, La.
Oklahoma City, Okla.
Port Arthur, Texas
San Antonio, Texas
Shreveport, La.
Tulsa, Oklahoma
Waco, Texas
Wichita Falls, Texas

AB ACME BRICK PERFORMANCE

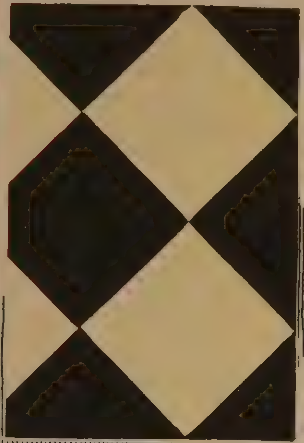
A Brick for Every Type — A Color for Every Color Scheme

Armstrong's Linoleum *for every floor in the house*

Green Jaspé No. 19
Jaspés made in 6 colorings

Handcraft Tile Inlaid No. 3147 (Patented)
Blocks are 1 x 2 inches in size

Straight Line Inlaid No. 350
Blocks are 6 inches square



A floor of Armstrong's Handcraft Tile Inlaid Linoleum No. 3132 lends to the air of conviviality at the Fourth Street Club in Philadelphia. This is a pattern in many shades of red.

Floors of Antiquity Find New Expression in Floors of Modern Linoleum

The finest floors of antiquity were of marbles, mosaics, and tiles, colorful, decorative, beautiful. Today, after our pioneer period of plain wood floors, when we used mainly the materials close at hand, we are turning back again to the days of old for inspiration and guidance.

Of all modern floor materials that give color and design, the new linoleum is perhaps one of the most usable. It is really the all-round floor—because it affords an almost unlimited range of appropriate designs at a cost within the reach of the modest income; because in addition to beauty, it provides restful resiliency and labor-saving cleanliness; because it combines unusual durability with low first cost and low maintenance expense.

When you plan a house, an office, or a shop, why not use modern Armstrong's Linoleum to give the floor its proper place in the color scheme? Let our Bureau of Interior Decoration suggest designs that will help you to produce the effects you have in mind. A consultation by mail may bring you practical ideas for using linoleum floors to harmonize with woodwork, wall coverings, draperies, and furnishings. This service is yours for the asking if you outline your requirements on your letterhead.

Look for the CIRCLE A *trade-mark on the burlap back*

Armstrong Cork Company, Linoleum Division, Lancaster, Pennsylvania

KERAMIK Color Staining

For Cement Floors and Stucco

Two Architects Give Their Opinions

ALBERT C. MARTIN
ARCHITECT
228-34 HIGGINS BUILDING
LOS ANGELES, CAL.

IT very often happens that we desire to get an attractive floor in situations where our cost allowance will not admit of marble or other expensive material. In such cases we have used the Keramik Process with good results.

Have been able to secure colors which are very soft and harmonious in their effect, and that tone in with other colors in the architectural scheme.

An important advantage, is that floors so treated are not checker-boarded in effect, but each tile has the color varied within itself, and blends to the adjoining tile.

Feel that there are greater possibilities for this process that have not yet been discovered.

Albert C. Martin

ALLEN & de YOUNG, INC.
ARCHITECTS
510 LEXINGTON AVENUE
NEW YORK

WE wish to take this occasion, upon the completion of your work at the Alba, Palm Beach, to compliment you on your material Keramik, which we specified for the color treatment of the cement floors in the public spaces.

The use of the material obtained for us some very fine and unusual color effects in harmony with the Spanish design and out-of-door character of the building.

We are so well pleased that we are proceeding with your field organization to use this material for finishing the garden walks and terraces, about forty thousand square feet. We have found no material that is so adaptable and simple to use with such splendid results. We have taken pleasure in recommending this material to others of our clients, and anticipate that you have had inquiries from them before now.

P.S. All stucco in the Alba was waterproofed with Horn's Hydratite.

Philip de Young

What It Is and Does

Keramik is a light and wear proof color staining, produced by Keramik Kemik.

This stain penetrates the concrete or stucco, where it unites with the lime and at once sets up a chemical action. This action in an almost mystic way, not only makes the surface color fast, but it hardens and densifies it, giving it a greater wear resistance.

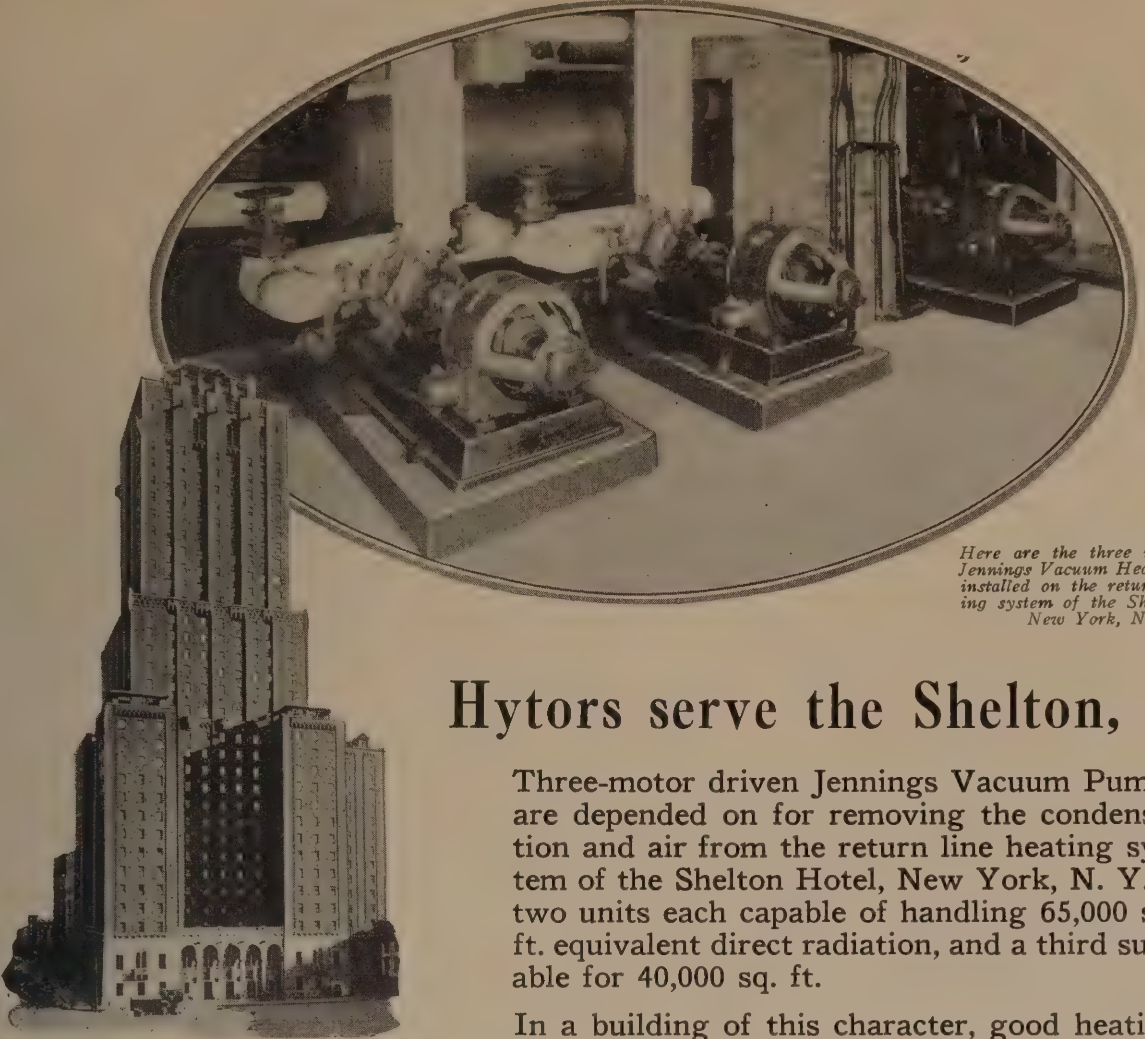
The chemical action is similar to that which takes place with the burning-in of tile colors. As the lime content varies, so in a most attractive manner do the color variations.

Over a million square feet of concrete floors have been Keramicized and are without exception giving complete satisfaction.

Write us for illustrative matter in full color and particulars as to methods of use.

A. C. Horn Company, LONG ISLAND CITY, N. Y.

HORN BUILDING



Here are the three motor-driven Jennings Vacuum Heating Pumps, installed on the return line heating system of the Shelton Hotel, New York, N. Y.

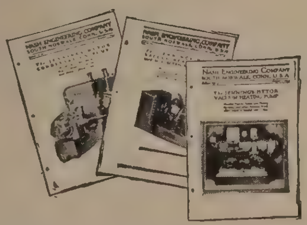
Shelton Hotel, Lexington Ave. and 49th St., New York, N. Y. Mr. Arthur Loomis Harmon, Architect; Jaros and Baum, Consulting Engineers; Gillis & Geohegan, Heating Contractors; Shelton Holding Corpn., Owners.

Hytors serve the Shelton, also

Three-motor driven Jennings Vacuum Pumps are depended on for removing the condensation and air from the return line heating system of the Shelton Hotel, New York, N. Y.—two units each capable of handling 65,000 sq. ft. equivalent direct radiation, and a third suitable for 40,000 sq. ft.

In a building of this character, good heating is a requisite of first importance. Only the most efficient design and equipment will assure the results that are expected and demanded,—and the fact that Jennings were specified for this installation is a significant recognition of their excellence.

Jennings Pumps deserve this commendation. In the many years they have been in use, they have conclusively proved again and again that they give reliable service season after season, with the characteristic dependability that distinguishes superior equipment.



Write for these Bulletins. They completely describe the several Jennings Heating Pumps—their construction, method of operation and the superior service they always give in the uses for which they are recommended.

NASH ENGINEERING COMPANY

So. Norwalk Connecticut

Branch Sales Offices: Atlanta, Boston, Buffalo, Chicago, Cleveland, Dallas, Denver, Detroit, Houston, Indianapolis, Kansas City, Los Angeles, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, Portland, Richmond, St. Louis, Salt Lake City, San Francisco, Seattle, Washington. In Canada: Montreal, Toronto and Vancouver. European Offices: London, England, Norman Engineering Co.; Brussels, Belgium and Amsterdam, Holland, Louis Reijners Co.; Oslo, Norway and Stockholm, Sweden, Lorentzen & Wettre.

Jennings Pumps

RETURN LINE AND AIR LINE VACUUM PUMPS CONDENSATION AND CIRCULATING PUMPS

Office of Sherwin-Williams Co. paint manufacturers, New York City, where its Blabon floor of Gray "Invincible" Battleship Linoleum helps to promote efficiency of employes.

Quiet office floors! Colorful, too!

Hazel H. Adler, author of books on interior decoration, gives valuable suggestions on harmonizing furniture and draperies with walls and floors, in our 36-page book, "Planning the Color Schemes for Your Home," beautifully illustrated in full color. Sent anywhere in the United States upon receipt of 20 cents.

Architects, contractors and builders in all sections of the country are advocating linoleum as a floor that possesses many advantages for offices, libraries, hospitals, churches and other structures where distracting noises must be eliminated.

The resiliency of a Blabon floor of Plain or Inlaid Linoleum deadens the sound of moving feet and chairs, and reduces nerve-strain. Its soft, pleasing colorings are easy on the eyes.

The new two-toned Jaspés—soft ruffled water effects—and Marble Tile Inlaids, as well as Blabon's Plain Linoleums are particularly adapted to large floor areas, besides adding a distinctive appearance to a room!

The smooth, crackless surface of Blabon floors is sanitary. Being easy to keep clean, they are economical to maintain. They are adapted to fireproof construction.

The modern method of cementing linoleum down over builders' deadening felt insures watertight seams which are practically invisible, and makes a Blabon floor permanent.

Our Advisory Bureau of Interior Decoration will gladly furnish suggestions without cost to you.

We will mail, upon request of architects, our reprint from Sweet's Architectural Catalog, package of quality samples, and our new 1926 Pocket Size Pattern Book.

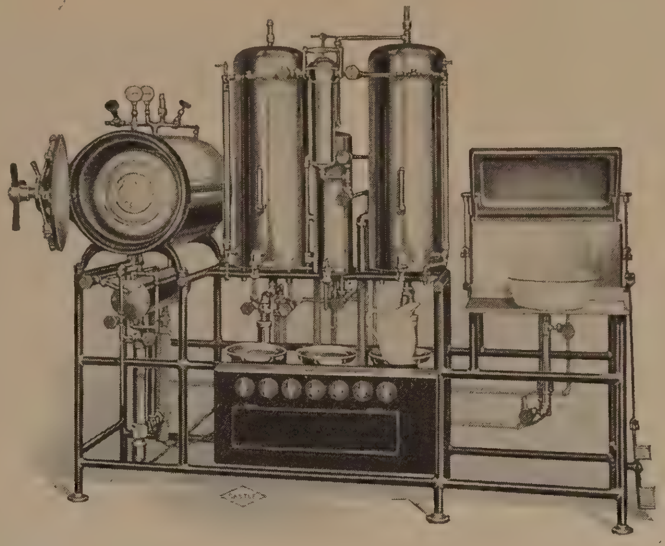
BLABON 1851 This label protects the buyer Remove label with damp cloth Guaranteed ART Linoleums

Look for this label on the face of all Blabon's Linoleum

The George W. Blabon Company, Philadelphia
Established 75 years

BLABON'S Linoleum

II Correct Sterilizing Principles Standardized for 25-30 Bed Hospitals.



All ready to locate connect and operate

A 25-30 bed hospital can save money by installing this complete three piece sterilizing battery. It is standardized to give every essential feature for perfect results in the sterilizing room.

We keep the necessary sections in stock. A blue print that shows where every pipe is located—only four outlets for the entire battery—and a mechanic can connect it with little difficulty. It will begin at once giving actual service without any interferences that result from mediocre design, slighted details, or thoughtless construction. Here are the details:

16x24 autoclave saves the utensil sterilizer.

This is large enough for both dressings and utensils and sterilizes utensils more quickly and better.

18x12x9 instrument a solid bronze casting.

It lasts a life time without a leak or a loose seam. The pedal raises cover and foot tray at once—no hooks necessary.

10 gal. water sterilizers combined with 1 gal. still.

Ease of operation in all details. Gauge glass can be really sterilized and cleaned. Filter does not require a jimmy to remove. All valve handles colored bakelite.

This standardizing of good sterilizing principles in so compact a battery is a godsend to anyone planning a small hospital. If you will fill out this card, you will receive full details, plans and specifications.

CASTLE

All electrically heated of course.

Why? Because it is the most economical for a small hospital. Steam heat requires a high pressure boiler and a licensed fireman all the year and every day. The Castle Company have specialized for years on electric sterilizers and we have yet to receive a complaint on the cost of operating one.

Please send all information on the Castle battery No. 0022.

Name ....

Firm.............. ....

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CASTLE

Sterilizers for Hospitals, Physicians, Surgeons and Dentists

Wilmot Castle Company, 1209 University Avenue, Rochester, N. Y.

This fence is made by hand in France

Dubois is the screening solution for incongruous views. Here it is effective in keeping the garage next door from encroaching on your garden.

Straight, live young chestnut saplings are woven together and bound with wire to produce this charming, unique fence

DIRECT from a famous old wood working factory in France comes Dubois Woven Wood Fence.

It puts for the first time within easy reach of the American architect a fence that embodies natural beauty, tradition, and moderate cost. It is today solving landscaping problems that have heretofore gone unsolved.

What Dubois IS

Dubois Woven Wood Fence is made of straight, live young chestnut saplings, pointed at the top, and woven together with non-rusting wire to horizontal braces. The work is all done by hand. So skillfully are the saplings bound to each other, that they form a perfect screen.

Dubois comes in sections 5 feet long, and in two heights, 4′ 11″ and 6′ 6″. It can also be made up into quaint gates of various designs. Erection is easy, as the sections are simply nailed to a framework of posts and two-by-fours.

Blends With Any Period

No other fence is so adaptable for such a wide variety of landscaping problems as Dubois. It fits in with any period or style. The saplings quickly mellow to a beautiful, soft brown, and the effects that are being obtained are indescribably charming.

Strong and skillfully made, Dubois will last a lifetime. It is easily erected and requires no paint. Furthermore, it is by far the least expensive means of artistically fencing an estate or garden.

File Our New Portfolio

A new portfolio of illustrations and detailed information regarding this charming fence will gladly be sent on receipt of coupon. Or if you will let us know what your problem is, we will be glad to supply photographs of Dubois installations that meet your client's particular needs.

Robert C. Reeves Company, the largest Wooden Fence distributor in the United States, is headquarters for all types of wooden fencing, from quaint, rustic designs of decorative character to the very heavy hurdle fences for farm use, as well as wire fencing.

DUBOIS
Woven Wood Fence

Imported from France by

ROBERT C. REEVES CO.,
187 Water Street New York

Robert C. Reeves Company, 187 Water Street, New York
Please send, without obligation, your new portfolio illustrating the many interesting ways Dubois is being used.
A-4
Firm __________
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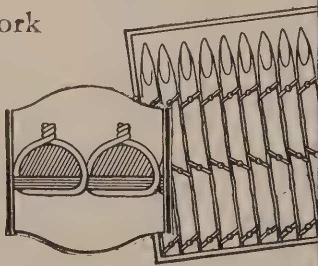
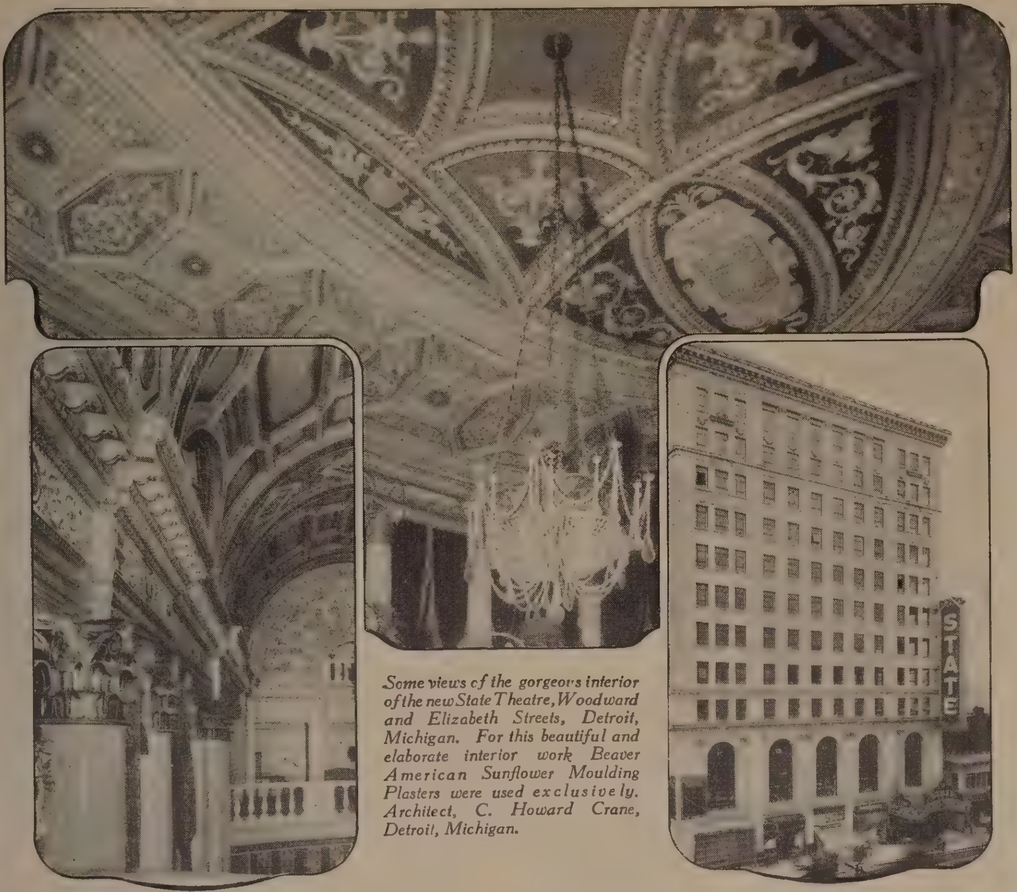
Right: This is a photograph of Dubois Woven Wood Fence taken along the road from Paris to Versailles. Its use in France is a cherished tradition.

Below: Each sapling is bound with wire to the bracing.



for WALLS



Some views of the gorgeous interior of the new State Theatre, Woodward and Elizabeth Streets, Detroit, Michigan. For this beautiful and elaborate interior work Beaver American Sunflower Moulding Plasters were used exclusively. Architect, C. Howard Crane, Detroit, Michigan.

PLASTER PERFECTION

Rembrandt without pigments of satisfactory quality could not have done justice to Rembrandt. No more can the builder of ornamental moulding work do justice to the beautiful designs you create without materials having special and important qualities. The number of magnificent buildings and interiors for which Beaver American Moulding Plasters are specified, in addition to base coat and finish plasters, is steadily growing. May we tell you more?

THE BEAVER PRODUCTS CO., Inc., Dept. 2505, *Buffalo, N.Y.*

BEAVER
AMERICAN
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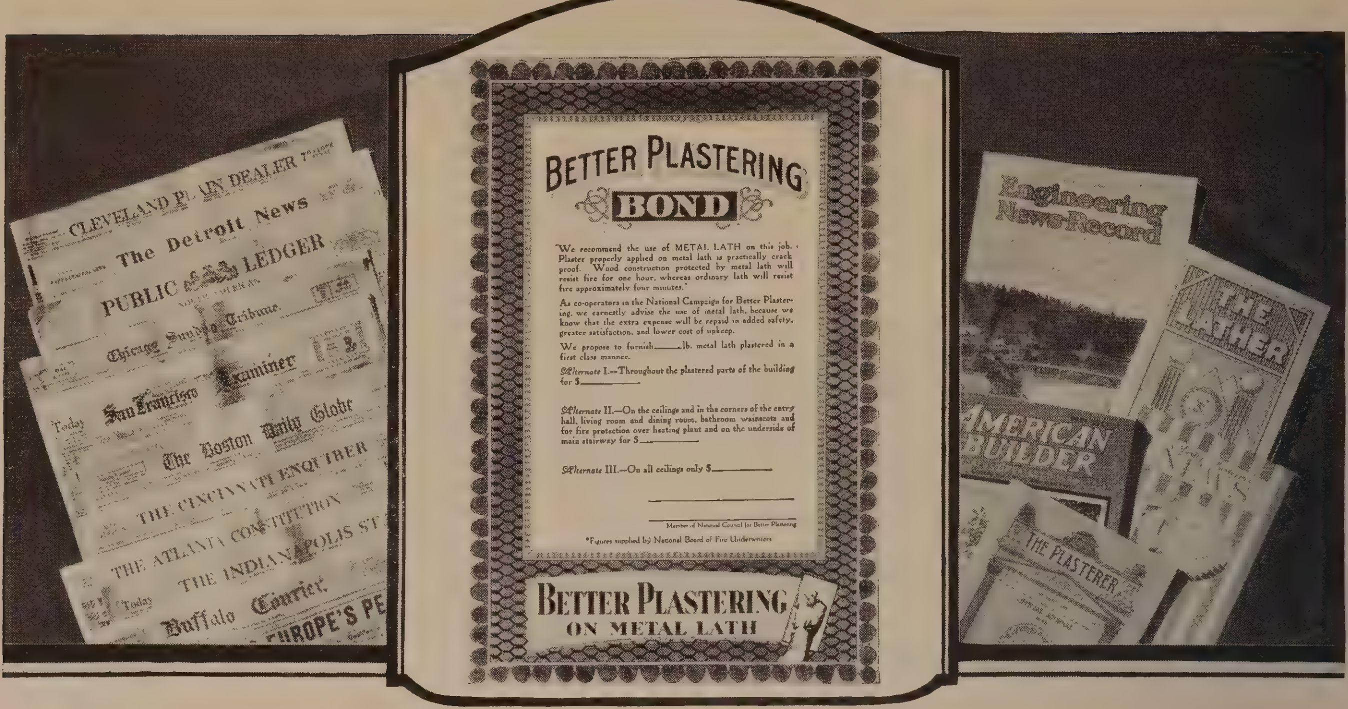

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"We recommend the use of METAL LATH on this job. Plaster properly applied on metal lath is practically crack proof. Wood construction protected by metal lath will resist fire for one hour, whereas ordinary lath will resist fire approximately four minutes."

As co-operators in the National Campaign for Better Plastering, we earnestly advise the use of metal lath, because we know that the extra expense will be repaid in added safety, greater satisfaction, and lower cost of upkeep.

We propose to furnish_____lb. metal lath plastered in a first class manner.

Alternate I.--Throughout the plastered parts of the building for $__________

Alternate II.—On the ceilings and in the corners of the entry hall, living room and dining room, bathroom wainscots and for fire protection over heating plant and on the underside of main stairway for $__________

Alternate III.--On all ceilings only $__________

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Member of National Council for Better Plastering

*Figures supplied by National Board of Fire Underwriters

BETTER PLASTERING
ON METAL LATH

This Bond Means Better Plastering

THIS year, the plastering contractors who are co-operating in the Better Plastering Campaign are submitting bids in the form of a "Better Plastering Bond."

This is just another step bringing the need for better plastering and fire safety before the home building public. The architectural profession realizes the advantages resulting from the use of a steel lathing base. With the "Better Plastering Bond," these advantages are brought home forcefully to each client.

We ask your cooperation in this educational work. Longer lived, fire-safe homes will result if you will specify Better Plastering on metal lath wherever possible.

THE NATIONAL COUNCIL FOR BETTER PLASTERING
819 Madison Square Building, Chicago, Ill.

BETTER PLASTERING
ON METAL LATH

FIRST NATIONAL BANK PASSES $400,000,000 RESOURCES

FOR FIRST TIME ALSO A NEW ENGLAND BANK HAS DEPOSITS TOTALLING MORE THAN $300,000,000

For the first time a bank in New England—in this instance the First National of Boston—has passed the $300,000,000 mark for deposits and the $400,000,000 mark for resources. Outside of New York City there are only three banks with larger totals for these items and only two of these have anywhere near the First's total for capital and surplus. . . . .

—Boston Transcript

THE FIRST NATIONAL BANK
OF BOSTON
Architects, York & Sawyer
Stone & Webster, Builders

STONE & WEBSTER
BUILDERS

BOSTON, 147 Milk Street
NEW YORK, 120 Broadway
CHICAGO, First National Bank Bldg.

PHILADELPHIA, Real Estate Trust Bldg.
SAN FRANCISCO, Holbrook Bldg.
PITTSBURGH, Union Trust Bldg.

FEDERAL LAND BANK, COLUMBIA, S.C.

A. TEN EYCK BROWN, *Architect* ATLANTA, GA.

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Appalachian Tennessee Interior Marble is especially desirable because it can be had in a wide variety of colors, it does not stain and it does not require waxing or other expensive refinishing.

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Our connections abroad with the leading quarries plus our exceptionally economical milling facilities allow us to quote on choicest foreign marbles prices as relatively low as are the prices of fine Appalachian marbles.

Whether domestic, foreign, or both domestic and foreign marbles are included in a project, send us the plans and specifications for prompt, accurate cost estimate—without the slightest obligation upon your part, of course.

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Exclusively
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SINCERE
MARBLE

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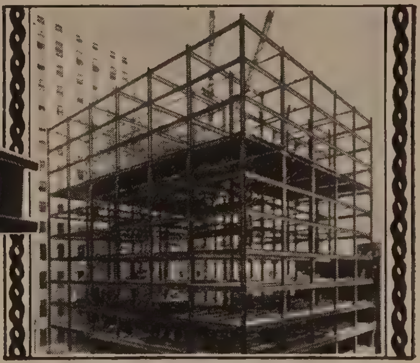
In Homes, too!

In fact~in all light occupancy buildings



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prove Economical ~ Practical ~ Dependable!

FROM the single home to the towering hotel, apartment or hospital structure GF Steel Joists are economical, practical and dependable. Steel Joist construction proceeds very rapidly, needing very little field labor. Several floors can be constructed at once and the finished floor construction is a strictly modern, rigid and firesafe one, dependable for all types of light occupancy buildings. GF Steel Joists will solve your problem of firesafe design in such structures. Full details will be gladly sent on request. *Return the coupon.*

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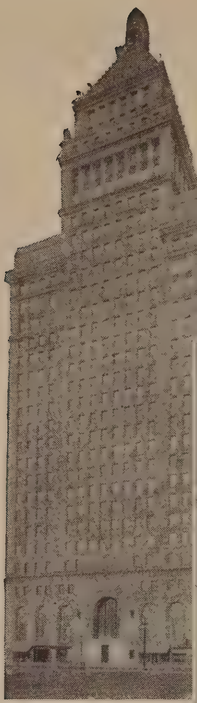
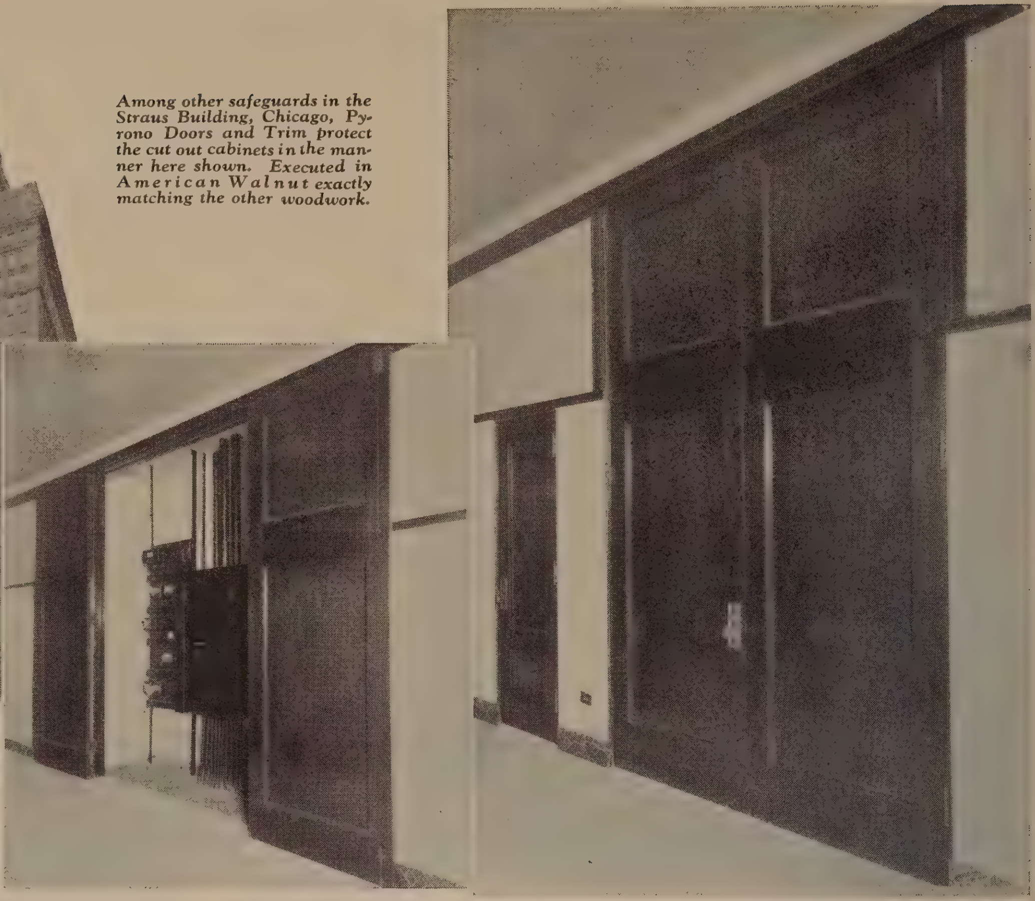
for Light Occupancy Buildings



The Straus Bldg., Chicago
Graham, Anderson, Probst and White, Architects
Thompson, Starrett Co., Builders



Among other safeguards in the Straus Building, Chicago, Pyrono Doors and Trim protect the cut out cabinets in the manner here shown. Executed in American Walnut exactly matching the other woodwork.

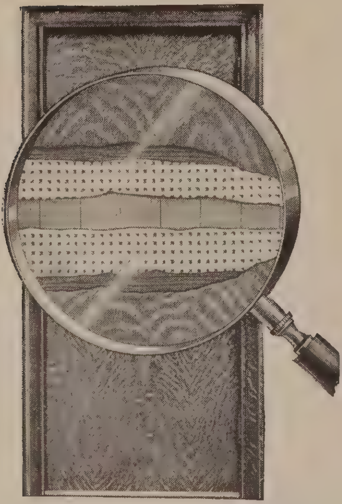
Execute Your Artistic Plans—with Pyrono Fireproof Doors and Trim

PYRONO'S double asbestos interlining is your invisible safeguard. Its presence enables the architect, with safety, to create the many delightful effects which wood alone permits.

Its reasonable cost, in view of its unusual advantages, makes Pyrono a valuable asset to the architect.

Your doors are given particular attention when made to order, as all Pyrono Doors are, at our factory. Consult with us by letter on your requirements.

The Compound and Pyrono Door Co.
ST. JOSEPH, MICHIGAN



This shows Pyrono construction magnified—the asbestos sheathing indented into the core and the cross-banded surface veneers applied over it.

Py-ro-no
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THE WOOD VENEERED DOOR WITH THE FIREPROOF CORE

THE LARGEST-SELLING MASON'S CEMENT IN THE WORLD

Evanston Township High School, Evanston, Ill. Perkins, Fellows & Hamilton, Architects; N. P. Severin Co., General Contractors. BRIXMENT mortar used exclusively

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PERMANENCE of the wall is a foregone conclusion when BRIXMENT is used for mortar. Because BRIXMENT possesses an invariably high factor of safety and insures uniform strength throughout the entire wall . . . Because the unusual plasticity of BRIXMENT produces a closely-knit, well-keyed joint that makes the wall a solid unit . . . Because BRIXMENT, requiring no lime, prevents the scaling of joints and uncertainty in the mix . . . Because BRIXMENT mortar attains a final strength equal to that of the brick it binds. *And BRIXMENT does not fade mortar colors.* Send for architect's handbook.

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for Perfect Mortar

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That Sunshine and Air may come in ➶ That Storm and Stealth may be kept out ➶ Good Architecture applied Good Hardware here

In other words, hardware which *works*—not occasionally, but always. Simply made—that it may be *easy* to operate. Staunchly made—that it may be as long lasting as it is good looking.

It matters not what your clients build, nor when they build — if it is a Good Building it deserves Good Hardware on every window and every door.

Corbin Hardware is Good Hardware

P. & F. CORBIN SINCE 1849 NEW BRITAIN CONNECTICUT
The American Hardware Corporation, Successor
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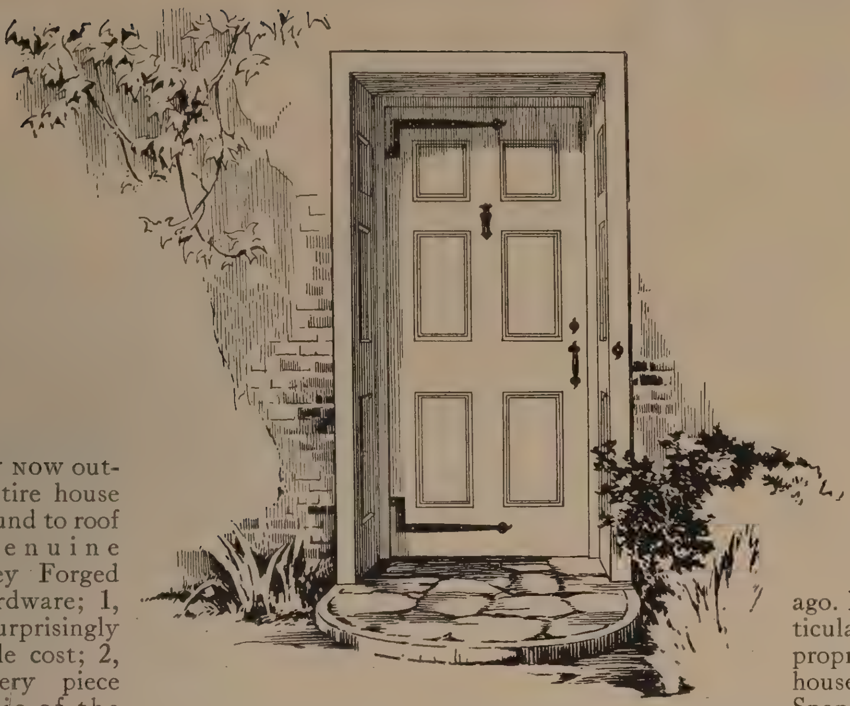

YOU MAY NOW outfit an entire house from ground to roof with genuine McKinney Forged Iron Hardware; 1, at a surprisingly reasonable cost; 2, with every piece authentic of the best in the art; 3, with the assurance of satisfactory wear; 4, with the certainty that each piece will fit accurately in place; 5, without the slightest extra trouble—for Builders' Hardware Merchants all over the country are now putting their sample pieces on display.

Four master designs are available, known as the Curly Lock pattern, the Tulip, Heart and Etruscan. All of these have their inspiration in the earlier examples of handiwork now so sought after by collectors and connoisseurs. Except the Etruscan, they are Colonial in motif. The Etruscan is an adaptation of the finest in Southern European iron work of years ago. It is particularly appropriate for houses of the Spanish and Italian type. The completeness of each pattern makes possible a consistency of treatment throughout.

One further point ought to be stressed about McKinney Forged Iron; it is rustproofed and completed in three different finishes: Dead Black Iron, Relieved Iron, Rusty Iron.

McKinney Forged Iron Hardware is on display at Builders' Hardware Departments. Catalogs have been mailed. If you have not received your copy please advise.

Forge Division
McKINNEY MANUFACTURING Co.
Pittsburgh, Pennsylvania

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Von Duprin

Self-Releasing Fire Exit Latches

The lives of its school children are a city's most precious asset. The school boards of most important American cities recognize this and make Von Duprin latches standard equipment on their school house doors.

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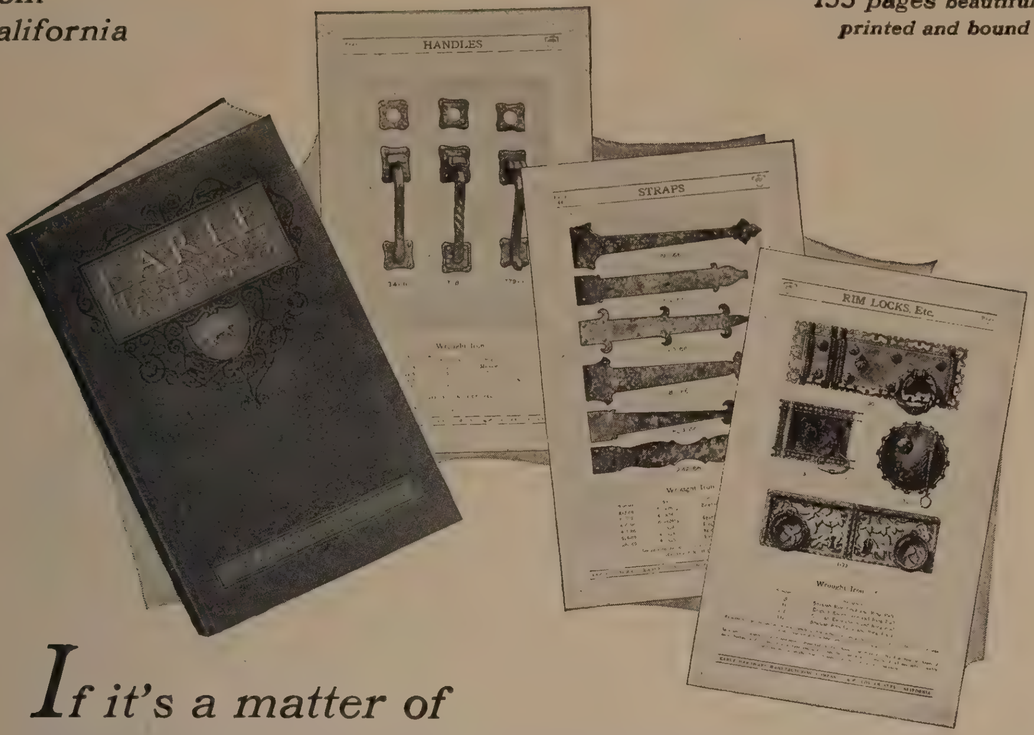

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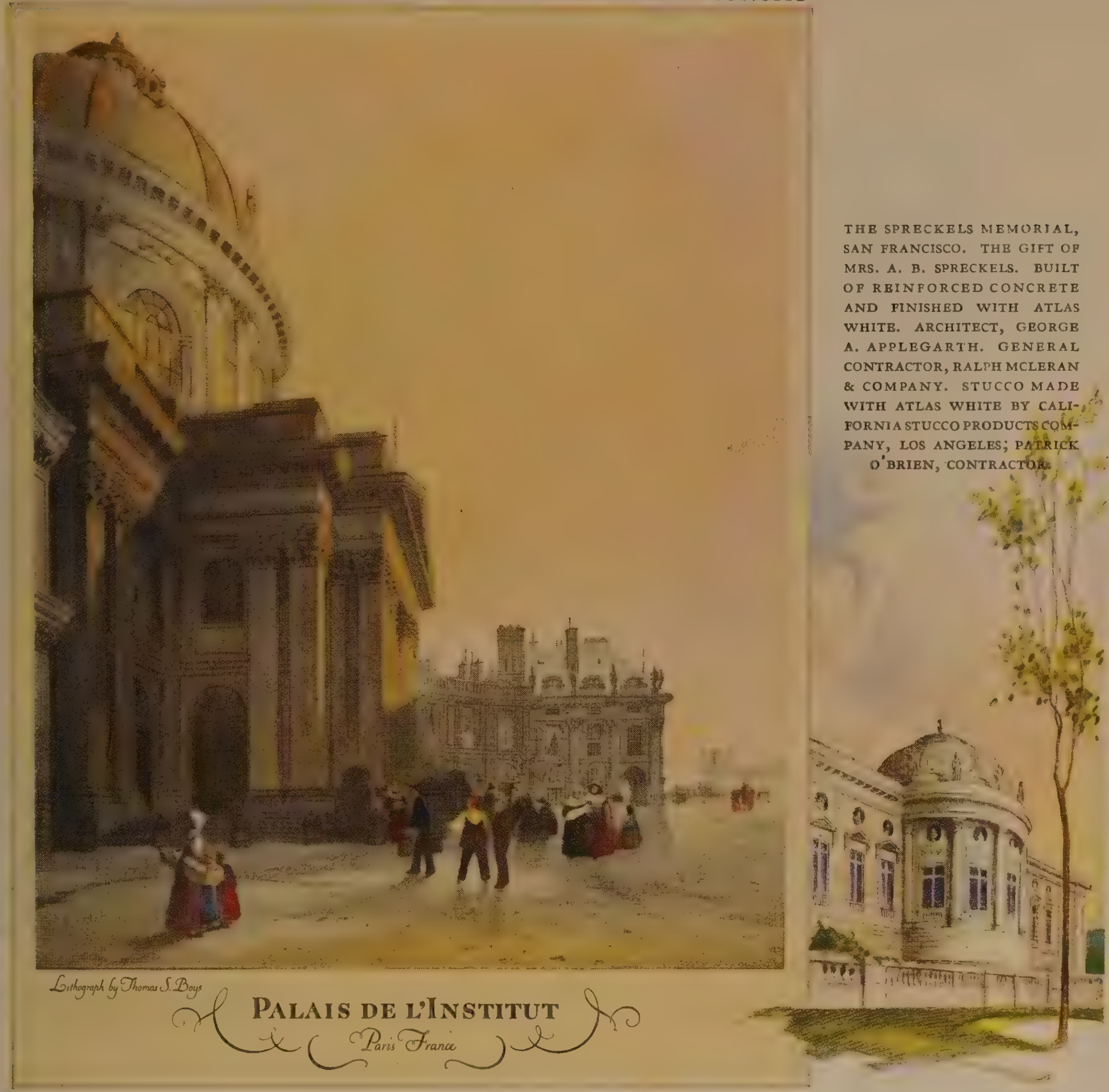

THE SPRECKELS MEMORIAL, SAN FRANCISCO. THE GIFT OF MRS. A. B. SPRECKELS. BUILT OF REINFORCED CONCRETE AND FINISHED WITH ATLAS WHITE. ARCHITECT, GEORGE A. APPLEGARTH. GENERAL CONTRACTOR, RALPH MCLERAN & COMPANY. STUCCO MADE WITH ATLAS WHITE BY CALIFORNIA STUCCO PRODUCTS COMPANY, LOS ANGELES; PATRICK O'BRIEN, CONTRACTOR.

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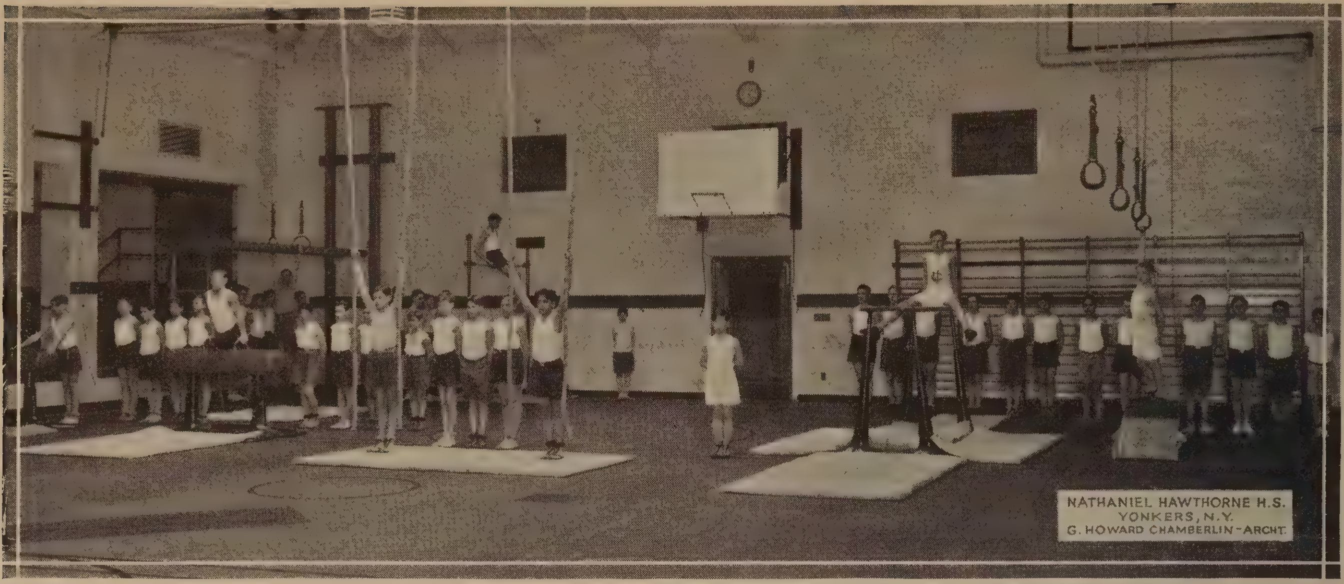

The gymnasiums and shops of the Roosevelt, Hawthorne and Franklin Schools at Yonkers, N. Y., have been floored with Bloxonend. G. Howard Chamberlain, Architect.

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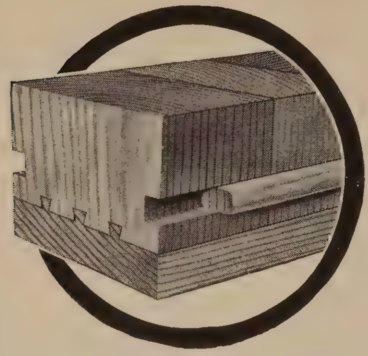

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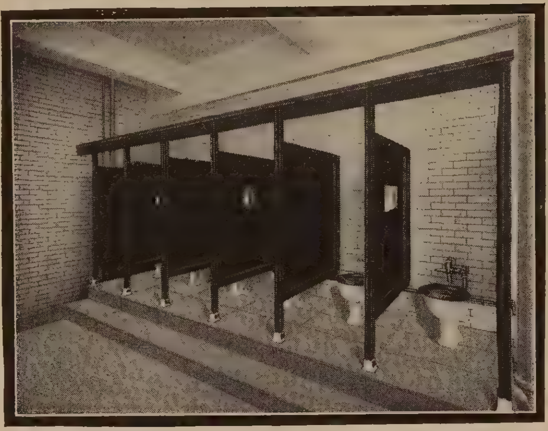

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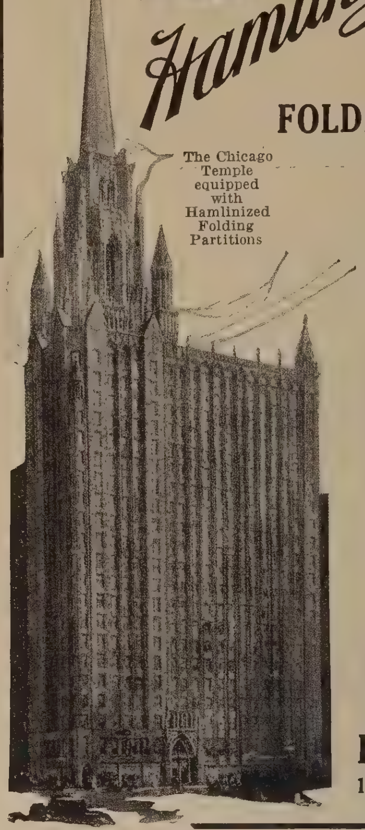

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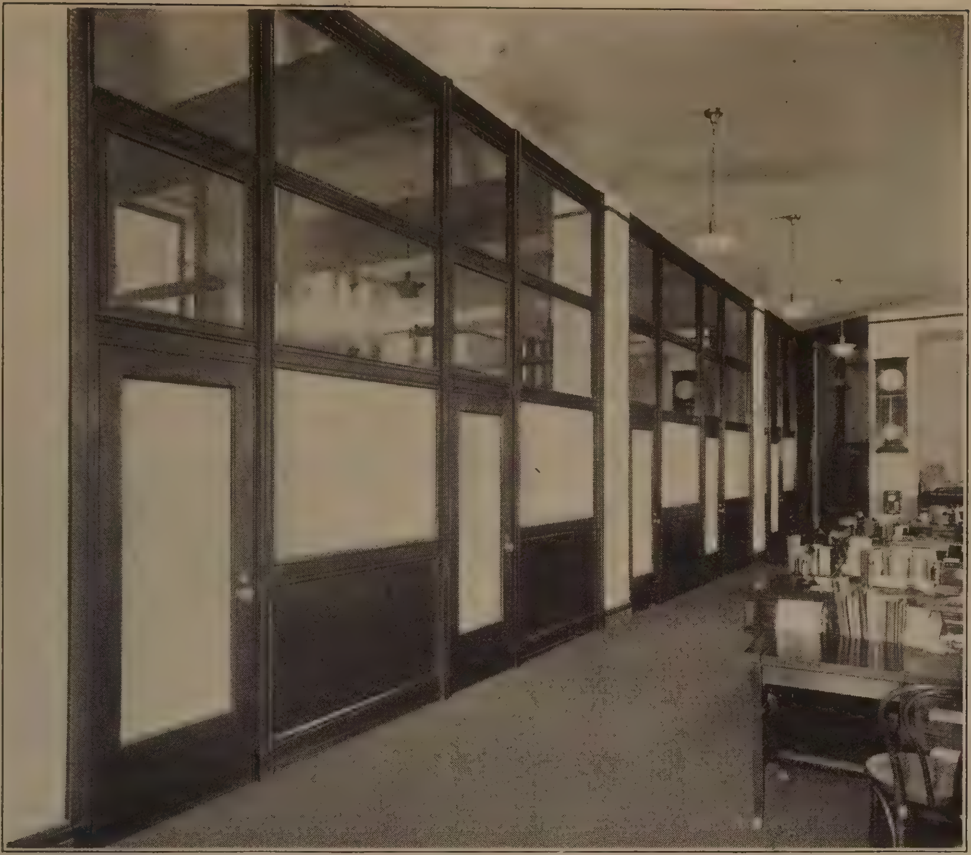

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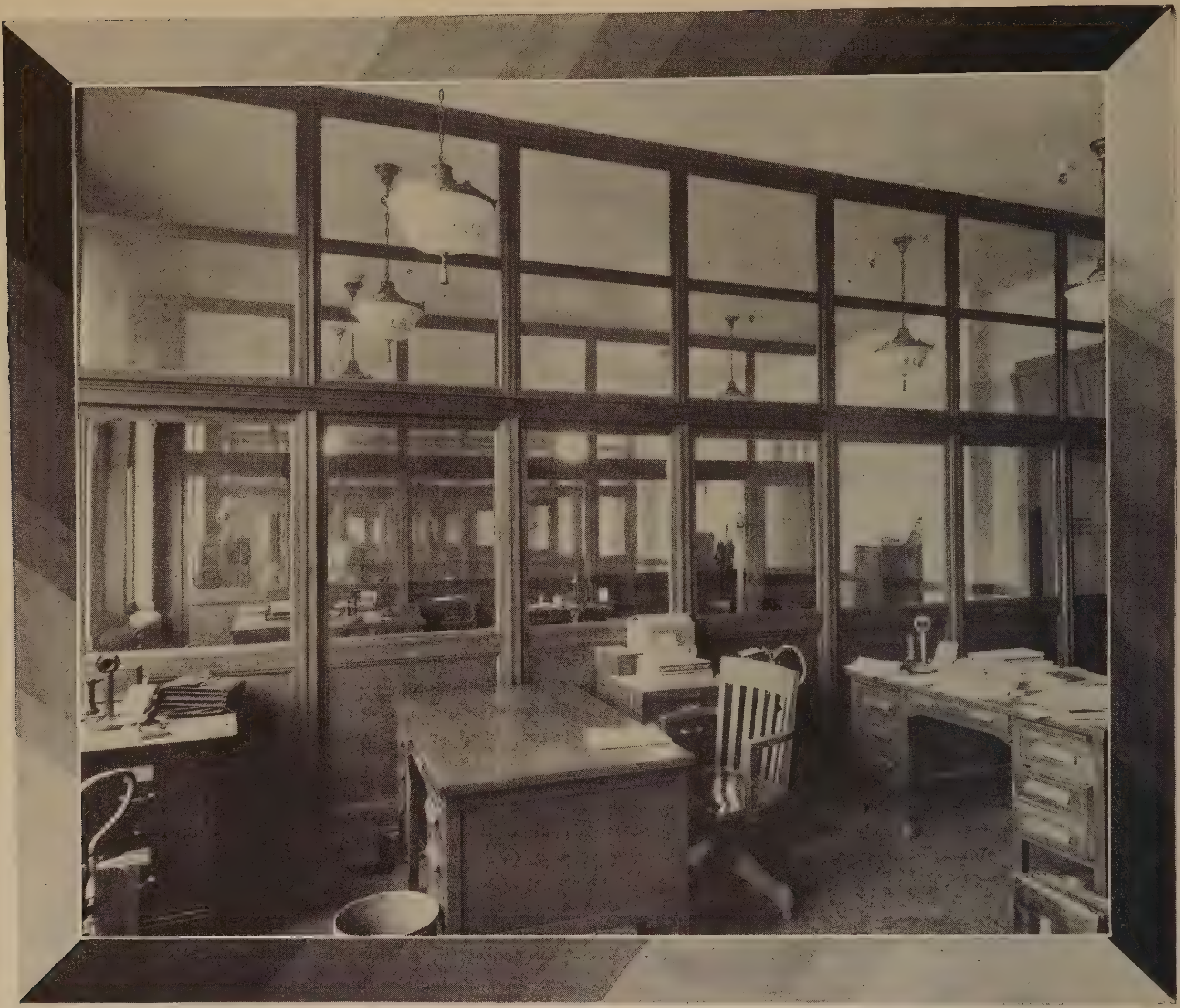

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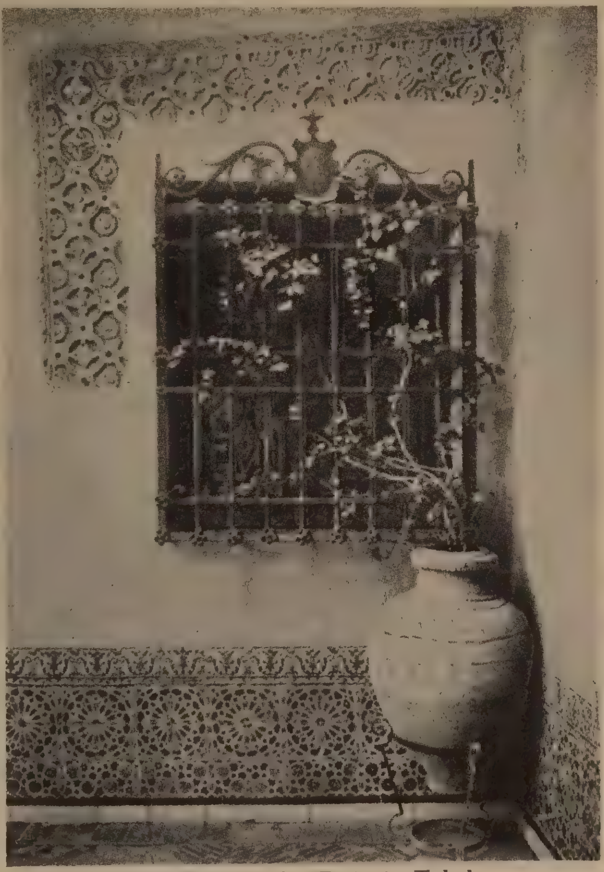
BOOK DEPARTMENT

Spanish Interiors and Their Decoration

A Review by ROBERT L. AMES

THE sudden rise in popular favor which Spanish styles of interior architecture and decoration have experienced in America has naturally brought with it many instances of their unwise use. It has often seemed that architects and interior decorators have made use of Spanish types chiefly because they offered (supposedly) an opportunity for that employment of gorgeousness on a large scale which so many of their clients insist upon having, and which they are likely to secure from one architect if not from another. It has not seemed to occur to architects or to interior decorators (still less to clients) that these Spanish types are most successfully used where a certain architectural reticence or reserve is maintained, and that an interior does not necessarily show a consistent use of Spanish forms merely because it contains large areas floridly decorated and filled with a vast assortment of miscellaneous objects, antiques for the most part, filched from old buildings, ecclesiastical and secular, and brought to New York for sale in various auction rooms. It might be replied, of course, that use of restraint is necessary for the proper use of any type; that no style is done justice to when overdeveloped and made to serve as a medium for carrying an overload of decorative accessories. Not that Spanish interiors need always be severely simple and austere, for often they are opulent and splendid; but almost always it will be found that there is involved a restraint which holds ornament in its place as subordinate to architecture, making architectural lines, areas and spaces of the chief importance, and adapting ornament to them.



One Corner of a Patio in Toledo
Illustration from "Spanish Interiors, Furniture and Details"

Not the least valuable detail of this excellent work lies in its illustrating just this point. Without minimizing the importance of the "printed word," one learns vastly more regarding a subject such as this from illustrations, and the almost 500 half-tones in this volume show domestic interiors in different parts of Spain which for the most part illustrate the balance or proportion just referred to, to be maintained between interior architecture and furnishing. It will be found that Spanish rooms are as a rule of good size and, above all, lofty; that objects of furniture are relatively few, confined to pieces of practical utility, and of bold and vigorous scale rather than numerous and small, as in interiors of some other types. This of course does not make for that intimacy of feeling which renders eighteenth century French interiors so charming, but on the other hand it gives a simple dignity or breadth which serves admirably interiors intended for many purposes.

The fact that the Spanish type demands rooms of fair sizes, somewhat sparsely furnished, necessitates of course care in the use of what decorations and furnishings they do contain. An interior may be equally "Spanish" with almost bare walls of rough plaster or having its walls gorgeously polychromed in some all-over design; and its woodwork, such as exposed roof timbers and shutters at windows, may be either simply finished or themselves polychromed. Shutters, even within, are often studded with ornamental nail heads. Use of ornamental tiles constitutes another detail typically Spanish, used not so much upon floors as upon walls as panels, dadoes, or linings for niches, cupboards or even for the risers of stairs.

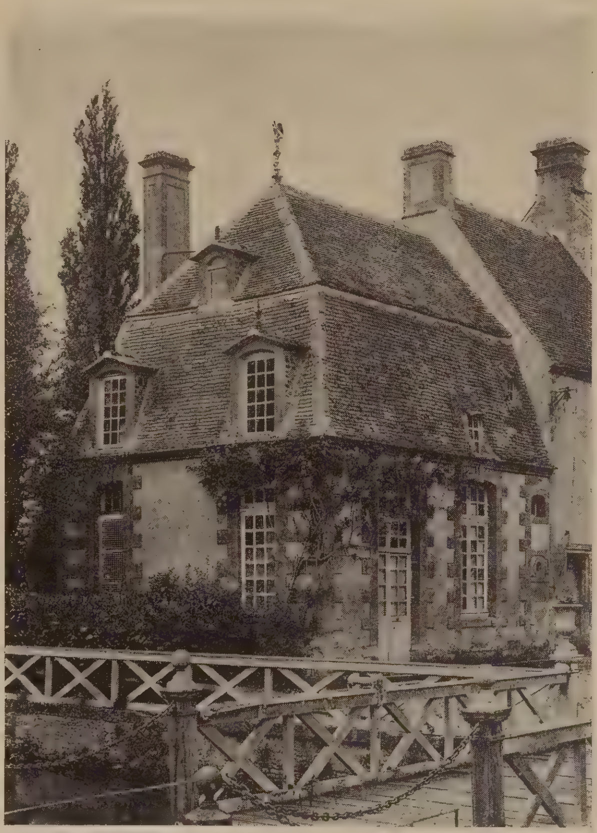
With interior architecture of a vigorous and distinguished character thus secured, Spanish interiors are likely to be furnished with the necessary pieces developed in walnut, sometimes with inlays of other woods, and a large part of this volume is devoted to illustrating the different types of the objects used to furnish Spanish houses. Excepting rooms of houses which have been restored and furnished so that they are practically museums, all the rooms illustrated are such as are lived in, and therefore possessed of such qualities as fit them for actual, practical use as twentieth century homes.

SPANISH INTERIORS, FURNITURE AND DETAILS. From the 14th to the 17th Century. With an Introduction by Harold D. Eberlein, 136 Plates with more than 450 illustrations. 8¾ x 12 ins. Price $18. Architectural Book Publishing Co.

FRENCH PROVINCIAL ARCHITECTURE

A Constructive and Practical Work on Minor French Buildings

By PHILIP LIPPINCOTT GOODWIN
and HENRY OOTHOUT MILLIKEN



SOME of the most graceful and distinguished architecture in the world exists in French provincial towns, small villages and in tiny hamlets which cluster about the great chateaux—small manors, half-timber cottages, shops and buildings of other kinds. Much of this wealth of design is applicable to American use—the exteriors largely for suburban or country houses, and the interiors for residences or apartments. The authors, with unerring architectural taste and judgment, have selected just those details which possess proportions and suitability for present-day use. The volume contains illustrations, plans and measured drawings worth considerably more than the cost of the work.

Text, 40 Plates of Measured Drawings
94 of Illustrations

Size of Pages, 11x15 ins.
Price $20

ROGERS & MANSON COMPANY
383 MADISON AVENUE NEW YORK

GOOD PRACTICE IN CONSTRUCTION. Part II. By Philip G. Knobloch. Text and 52 plates, 8¾ x 11⅝ ins. Price $4. The Pencil Points Press, Inc., New York.

ARCHITECTS sometimes complain that the quality of workmanship in the building trades has deteriorated greatly during the last decade, and that in their zeal to finish work with sufficient speed and with sufficiently little effort to realize a profit on the price at which he has secured the work, a contractor will resort to use of tricks and makeshifts of all sorts,—particularly if he thinks his makeshifts will not be found out! Contractors, upon the other hand, have been known to complain that the drawings which come to them from architects' offices are often theoretical rather than practical,—that in his interest in design an architect sometimes loses sight of the requirements of practical construction, with the result that a literal following of plans and drawings, even when possible at all, would generally involve prohibitive cost.

With an idea of placing authoritatively drawn details on record in a drafting room, and probably also with the idea of establishing a satisfactory standard of construction for contractors, this excellent series of handbooks is being published. The well selected and carefully presented subject matter has been assembled as the result of the collaboration of the author and a number of the best known architects in the country, along with assistance from many men in the building trades. The plates deal fully with a vast number of the details of construction, such as balloon and braced framing, floor framing, store fronts, placing of exterior windows and doors, vault and dome construction, louvers, septic tanks, etc., all these presented in ways calculated to aid and guide architects and their draftsmen as well as builders and contractors.

POTTERY AND PORCELAIN. By Frederick Litchfield. 464 pp. 7 x 9¾ ins. Price $9. The Macmillan Co., New York.

THE relations which exist between architecture and pottery of certain kinds are close indeed. The term "pottery" in its broadest sense includes rather more than is generally thought of when the word is mentioned, and often pottery in the forms of brick or terra cotta becomes an important part of architecture itself, or at least of building, without which architecture proper could not assume tangible form. At other times pottery assumes importance as accessories in decoration, and it is with pottery falling within this classification that this work deals. The work is rich in technical information.

Mr. Litchfield published in 1879 what may be regarded as the beginning of the present work, a volume slender indeed in comparison with that now issued, which after being repeatedly amplified appears now in the fourth edition of its present form. The volume deals in minute details with earthenware of the various kinds which are considered as pottery, with porcelain, and particularly with the marks by means of which the different varieties are identified. It gives reproductions of the marks themselves, and is replete with illustrations not only in black and white but in color as well. The author, with a background acquired during many years of study and collecting, has drawn with taste and discrimination upon the resources of public and private collections in selecting subjects for illustration. The volume is likely to be of particular value to collectors of ceramics or to architects.

THE FALISCANS IN PREHISTORIC TIMES. By Louise Adams Holland. Volume V of Papers and Monographs of the American Academy in Rome, 162 pp. and 13 plates, 6 x 9 inches. $2.50. American Academy in Rome, 101 Park Ave., New York.

THE volumes published under the auspices of the American Academy in Rome represent the result of much archæological research into the remains of historic and prehistoric settlements, for the most part in Italy. Volume V of the series deals with such remains as still exist of the *Ager Faliscus,* a locality on the edge of a civilization greater than its own, obscured and finally absorbed by its more powerful neighbors. Such was the district northeast of Rome, inhabited by the Carpenates and the Faliscans, tribes well known to students.

The work is a study into the life and customs of the period. Much of the history and general knowledge of a race so remote in time is necessarily gleaned from its tombs and other places of burial, largely because of the custom of the ancients of placing in the tombs the pottery, metalwork, ornaments, or other objects which it was thought would be needed in the life beyond the grave. Exploration and examination of ancient burial places yield data of immense value in studying any ancient civilization and particularly its habits of living.

Exceedingly well documented, and produced with all the editorial care which distinguishes the publications of the Academy, the work will have a distinct and definite value in filling what has hitherto been a gap in knowledge of the antique world and its legacy to the present.

READY-WRITTEN SPECIFICATIONS. By Leicester B. Holland and Harry Parker. 274 pp., 8¼ x 11 inches. Price $5.50. John Wiley & Sons, Inc., New York.

FEW of the details which demand attention in an architect's office are regarded with the resignation to a necessary evil with which building specifications are contemplated. Often, indeed, a set of specifications is inherited, so to speak,—bequeathed or passed on by an older to a younger architect, or copied from the archives of a well established office for one just being established, and then followed without change year in and year out, surviving many changes of administration and office upheavals and finally, no doubt, inherited, intact and absolutely inviolate, by the architect's successors.

And yet it would be difficult to imagine a course more unprogressive and reactionary. This is the day of progress, and in no sphere or field of effort is progress more marked than in that of building and the use of building materials; new products are invented and put upon the market, and old, well known materials are often changed—for better or worse—and sometimes to extents which mean complete changes in character if not in identity. Then, too, building practice changes with the use of different materials, and all this involves—or at least should involve—corresponding alterations in the specifications by which an architect theoretically governs the type and quality of construction by prescribing the materials which shall go into the structure. Some offices, realizing the importance of the subject, maintain well equipped specification departments, conducted by well trained men who keep informed as to the state of the market and are on the alert for new materials and for advanced methods of using them; but in the average office the writing of specifications is regarded as something necessarily fixed, definite and immune from change, which always results in the work's becoming perfunctory.

This excellent work on specifications is the result of experience, study and observation. The authors are graduates of the School of Architecture of the University of Pennsylvania, members of the American Institute of Architects, and both have had wide experience in the practice of architecture. The volume covers every detail of specification writing for a building of any kind, large or small, and the outlines given require only such changes or supplementary clauses as may be made necessary by conditions or the peculiarities of site or of local building practice. The work is highly recommended to architects, specification writers and others concerned with the best use of building materials. It fully meets the needs of those who desire a complete and detailed survey covering the subject and ready for immediate use.

RELATION IN ART. By Vernon Blake. 325 pp. 6 x 9 ins. Price $6. Oxford University Press, American Branch, New York.

RELATION in Art is, in the words of the author's sub-title, "A Suggested Scheme of Art Criticism With Which is Incorporated a Sketch of a Hypothetic Philosophy of Relation." However, in weighing the importance of the two divisions, one might be inclined to contend that it would have been as happily named had it been called "A Hypothetic Philosophy of Relation and its Application to Aesthetics" as given its present title.

In the first part of the book the author attempts to formulate a philosophic system in which "the means of plastic expression" are considered "as a language fitted to express forms of thought." Such an attempt on the part of an author necessarily involves a certain number of elementary definitions and distinctions to eradicate the ambiguity attendant on the use of words pertinent to the development of a philosophic system. Such digressions are overlooked as necessary evils, and are excused when one turns to the more solid portions of the book and realizes the importance of Mr. Blake's treatment of the matter in hand. The Aristotelian logical forms are cast aside as being inadequate to cover the processes of æsthetic thought. The "inter-relation of the component elements" in a work of art is treated as the vital thing, while through the whole runs its general *leit motif,* "there is an essential universal" sameness with which it may be useful to coördinate a sameness of our own invention. These two detached quotations may seem a little absurd, but in their proper settings and considering the other portions of the book one may infer that a work of art *is* a work of art in so far as it represents some function of the undetermined formula of the universe. Such an idea, though not entirely unheard of, has been so slightly dwelt upon or developed that it appears almost in the light of a discovery.

The hypothesis is interesting in its extreme and admits of much speculation and thought. It is somewhat unfortunate, however, that the author attempts to apply his theories to only those æsthetic reactions which arise from what he terms the plastic arts. Had the scope of the work been broadened to include more universal experiences, experiences from other forms of art as well as from plastic forms,—would it not be a more valuable and interesting document? Perhaps the author does not consider the former as being related to the latter, but it seems unlikely that a writer of Mr. Blake's intellectual ability would so choose to differentiate between two such closely allied reactions as have been herein suggested.

MAHOGANY ANTIQUE AND MODERN. Edited by William Farquhar Payson. Plates and 154 pp., 8½ x 12¾ ins. Price $15. E. P. Dutton & Co., 681 Fifth Avenue, New York.

STUDENTS of English and American architecture and decoration identify use of certain woods with certain architectural periods. Thus oak is associated with the Gothic era, together with the Tudor, Elizabethan and Jacobean periods; walnut more particularly with the era of William and Mary and Queen Anne, while mahogany is chiefly identified with the reigns of the Georges, and especially with the latter part of the era, with the work of Adam, Chippendale, Sheraton and Hepplewhite, and with the work done in America during the years just before and after the Revolution. Mahogany, therefore, is the wood in which there was developed the most graceful and refined of English and American furniture, that in which were embodied all the delicacy, subtlety and sophistication to which furniture design could be made to give expression at the hand of skilled craftsmen.

This volume might be regarded as a complete review or survey of the part mahogany has played and is still playing in architecture and decoration. The nature of the wood is discussed as well as its production, including the stages which follow one another,—the tree's being felled in some forest, perhaps in Honduras; its transportation in the form of logs to a mill; its being cut up into units of suitable lengths and appropriate widths and thicknesses, and then finished for actual use. Perhaps of wider interest are the portions of the volume which deal with the actual uses of the wood, uses past and present,—its being employed occasionally for interior trim, particularly for those beautifully paneled doors, with their carved architraves painted white and the silver knobs, locks and hinges which adorn so many fine old houses in the South, built during the late colonial or the early federal period. Of interest, too, are the uses of mahogany for yachts and vessels of different sorts, and of even greater moment are the uses of the wood, past and present, for furniture, not only in England and America but in continental Europe as well, often used in combination with other woods, with gilding and with mounts of metal.

Mr. Payson as Editor has availed himself of the aid of others well qualified to deal with their respective topics. Among these contributors are Frances Morris and Charles O. Cornelius of the Metropolitan Museum, Kenneth M. Murchison and Henry B. Culver, the latter well known for his ship models and his writings on ships. The volume is filled to repletion with excellent illustrations of interiors and individual pieces of furniture, and it is indeed well worth the attention of architects and decorators.

The importance of mahogany is perhaps greater today than ever before. Its importation no longer involves its costly transportation from great distances, since sources of supply comparatively near at hand are now available, and modern methods of finishing and marketing have resulted in making this most beautiful of woods available for a wide variety of purposes. The very availability of mahogany imposes a certain obligation upon those who direct its use, and this review of the place which the wood has occupied in building and decorating is of help in determining the present value of mahogany and suggesting its most appropriate use for various purposes.

COLONIAL INTERIORS

Photographs and Measured Drawings of the Colonial and Early Federal Periods

By LEIGH FRENCH, Jr., A. I. A.

INTERIOR woodwork during the Colonial and early Federal periods was exactly what is demanded for "Colonial" interiors today. The character of workmanship in the colonies insured craftsmanship of excellent quality, and this, together with design carefully studied from the simpler contemporary English work, resulted in woodwork which it would be difficult to improve upon. For this reason close study is being made of such old American interiors as still exist, and measured drawings make possible the reproduction today of much of the finest woodwork of the seventeenth or eighteenth century. These forms, while they involve not a little subtlety in the details of design, demand merely the use of simple mechanical processes which are not beyond the skill of any reasonably proficient woodworker, sometimes of an ordinary carpenter.

IN this valuable work on the early American periods there are given illustrations from new photographs of interiors of the time, many of which are little known. These illustrations are of rooms of different kinds and of widely different types,—the early, somewhat severe type as well as that which was later and more refined and luxurious. Valuable illustrations are supplemented in many instances by invaluable working drawings,—details of wall paneling, mantels, over-mantels and fireplace surrounds; door and window trim; china closets; newels, balusters and other details of stairways, and designs for the stenciling of floors, together with notes on the colors originally used. It is a volume which in its practical usefulness will be of great value to architects whose work involves much use of early American interior design.

125 plates, 10 x 15 inches. Price $15

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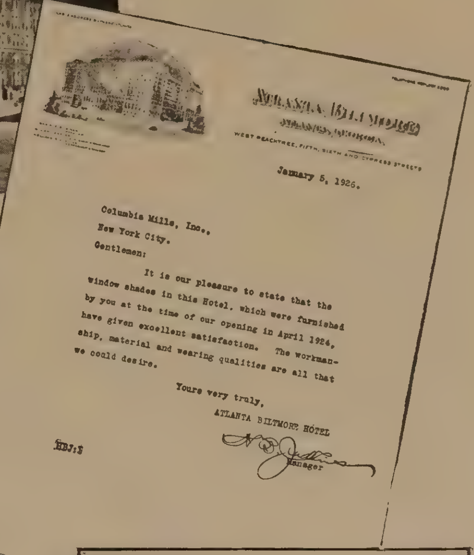

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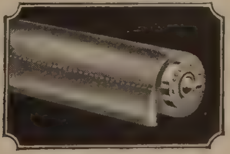

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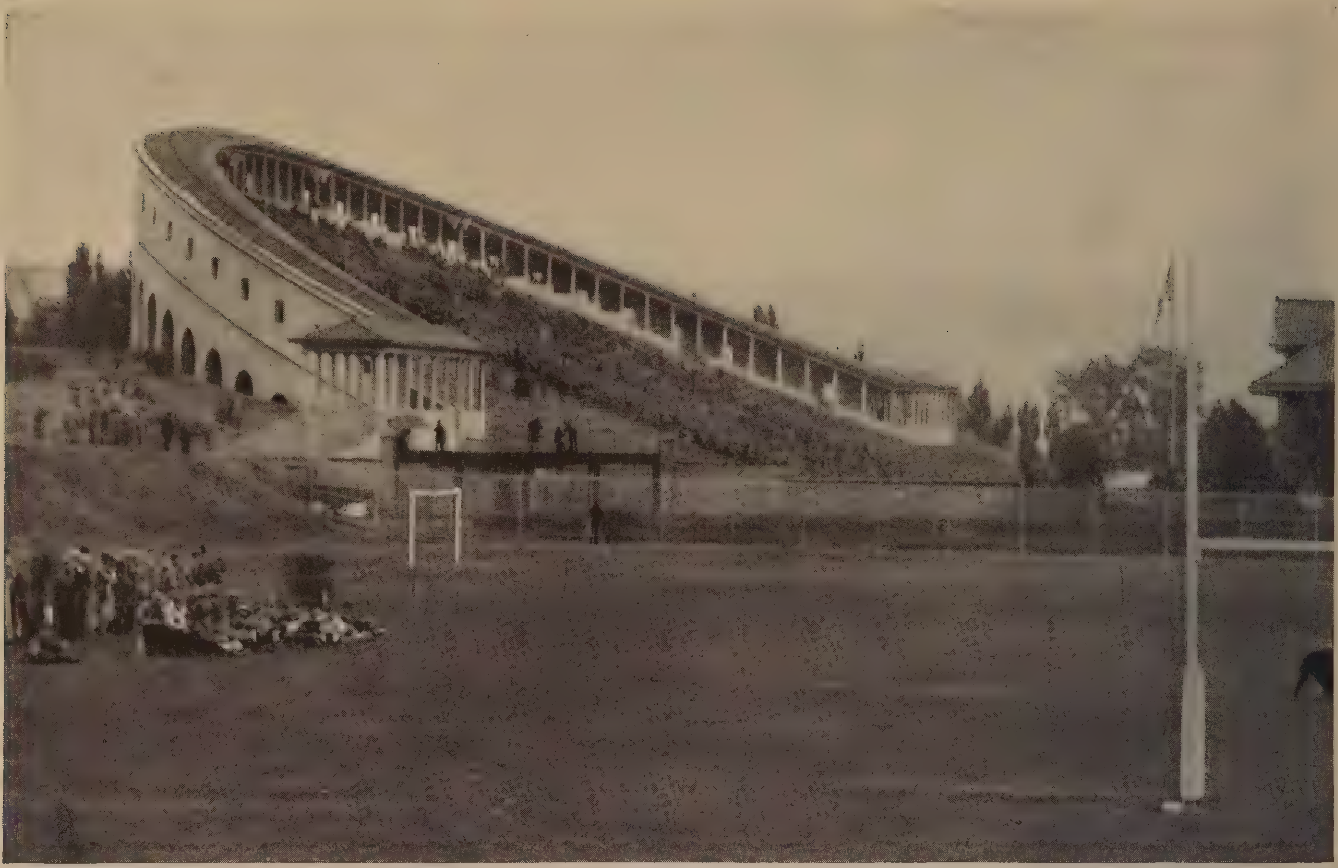

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The ARCHITECTURAL FORUM

VOLUME XLIV NUMBER 5

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PARKER MORSE HOOPER, Editor

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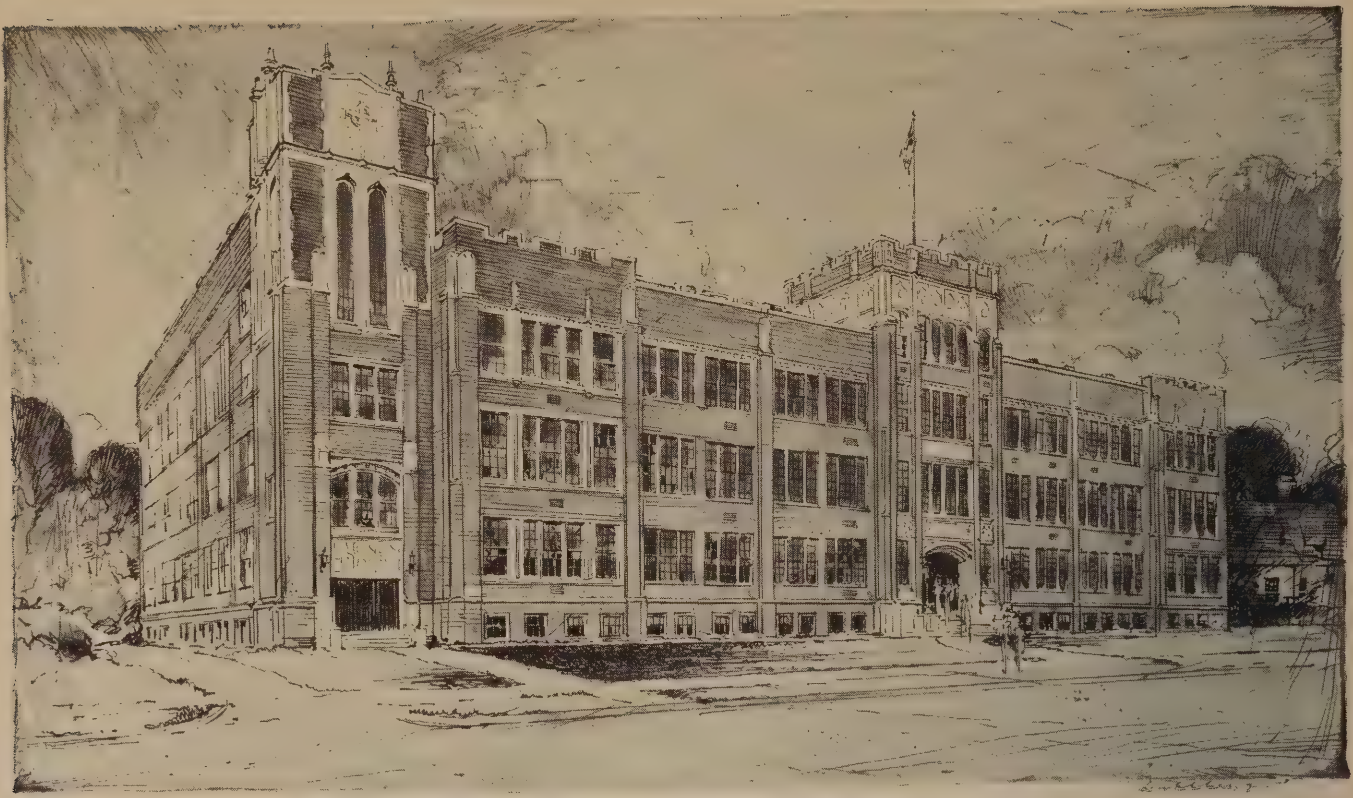

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THE EDITOR'S FORUM

IS THE INDIFFERENCE MUTUAL?

THE *Saturday Evening Post* sells each week something over two million copies. According to Mr. C. H. K. Curtis' department, which studies human behavior, at least ten million people see this journal every seven days. Well,—we for one hope this estimate is particularly correct for the issue of March 27, which carries the first of a series of articles by Harvey Wiley Corbett.

This estimable gentleman, always alert where the interests of his fellow practitioners are concerned, has descended, pen in hand, from the pinnacle of the Bush Building and has initiated a large portion of the public into the mysteries of architecture, undoubtedly the most important and intelligently presented public propaganda which the profession has received in the memory of living man. Mr. Corbett's article, effectively titled "New Stones for Old," is written with a blending of those scholarly, human and humorous qualities which make it easy to read and believe.

The article is important on its own account and important because it gives point to a matter which for many years has been urgently present in the architect's office—the relation of the architect to the public. Architects have long complained that theirs is the least understood and least appreciated of the professions. The complaint is justified. But, willing to recognize the public's shortcoming in that respect, have architects been willing to recognize their own? Why expect the public to take the initiative, with a hundred other interests not merely hoping for but actually clamoring for its attention? The crowd does precious little thinking of its own. It never gets a chance to. Someone is always around ballyhooing for this thing and that, and the public turns eagerly wherever a new sound is heard or a new light appears. As a matter of fact, architecture forces itself upon the public's attention more than any of the little-heralded arts and professions. Particularly in the large cities, architectural activity is of a sort that demands attention. The deplorable fact is, however, that when the layman views a new building, he almost invariably thinks in terms of the *owner* of the building and rarely of its *designer*. The average man on the street cannot name three architects, although there are 25 buildings, which stand as conspicuous examples of architecture, of which he can readily identify the owners in every instance.

There is only one way to make the people see and think *architecture* when they look at a building. There is only one way to make the public understand the architect's function. There is only one way to make the public place a proper value on architectural service. Mr. Corbett has shown the way. It is hoped that other members of the profession—there are many talented men who can—will follow the lead of this pioneer. Whether the Institute shall deal with this matter in an organized way, or whether the work is carried on by certain individuals who elect to serve their profession in this manner, is of less importance than to keep the hammer pounding until every last person knows what an architect is and what an architect does. Meanwhile, let us salute and cordially acknowledge architecture's further indebtedness to Mr. Harvey Wiley Corbett.

Raymond M. Hood has happily anticipated us, for as we go to press we find in the April 10 issue of *Liberty* an intensely interesting prognostication on the New York of the future. It is a pleasure, therefore, to salute Mr. Hood and Mr. Corbett individually and jointly. Surely here is precedent to follow.

PLANNING FOR LONDON'S GROWTH

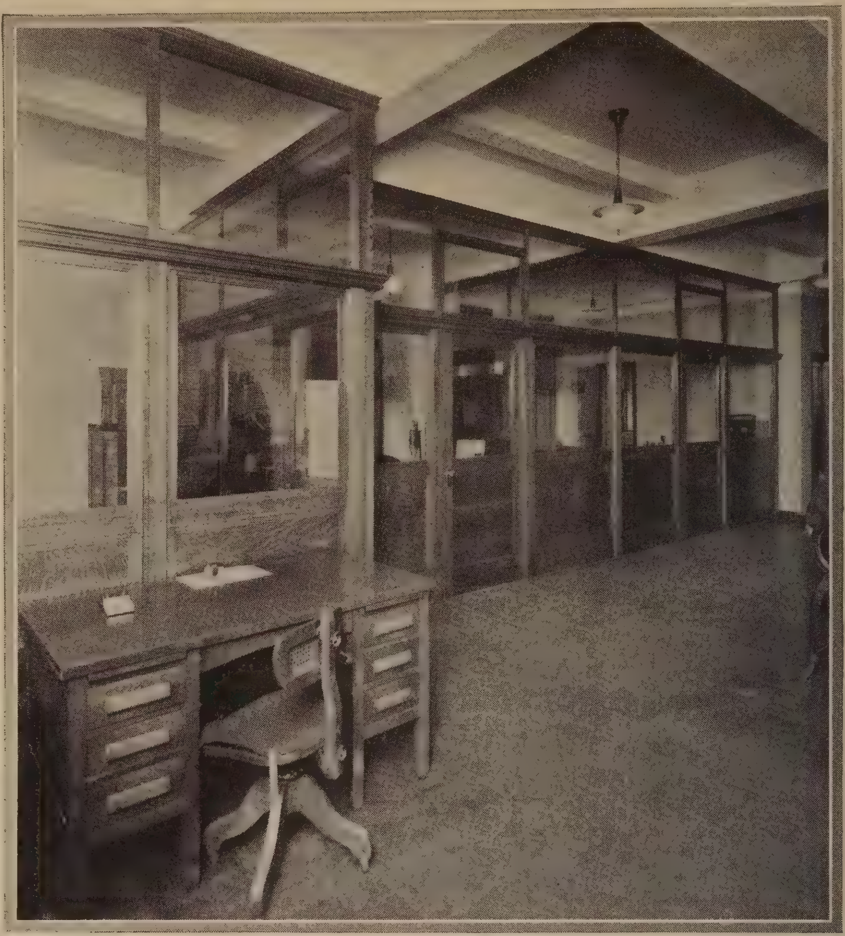
LIKE New York and other newer and rapidly growing cities, London is grappling with the problem of city planning for the future. The great difficulty there is to provide parks and open spaces for future generations, according to a recent widely circulated dispatch of the Associated Press.

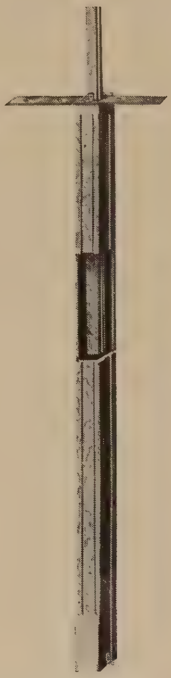
In discussing the London of 2026, G. Topham Forrest, chief architect of the London County Council, points out that the London of a hundred years ago is now Central London. In 1800 the distance from the center of the city to open country was about two miles; now it is from six to eight miles. To provide breathing spaces for the future millions, Mr. Forrest suggests definite areas for residences and others for factories, with a ring of parks around the inner metropolitan area,—"zoning," in other words. He advocates the utilization of the old Regent's Canal, which many Londoners hardly know exists, for a boulevard linking up the existing parks. The fenced squares which are characteristic of London should be made available to the public at once, he says, instead of being kept locked for private use.

The architect's plan includes a new layout of the western part of inner London, with Buckingham Palace as the center. Three new bridges across the Thames would be needed for the increased traffic.

QUANTITY SURVEYORS ORGANIZE

AN Institute of Quantity Surveyors is now under organization by some of the representative professional quantity surveyors throughout the United States. The initial session of the Institute will be held in Chicago, June 6, 7 and 9, 1926. Discussions and creative work of vital importance and interest will be taken up. Those interested in coöperating with this movement are asked to communicate with Mr. G. Szmak, 945 Main Street, Bridgeport, Conn., who will forward particulars regarding the project.





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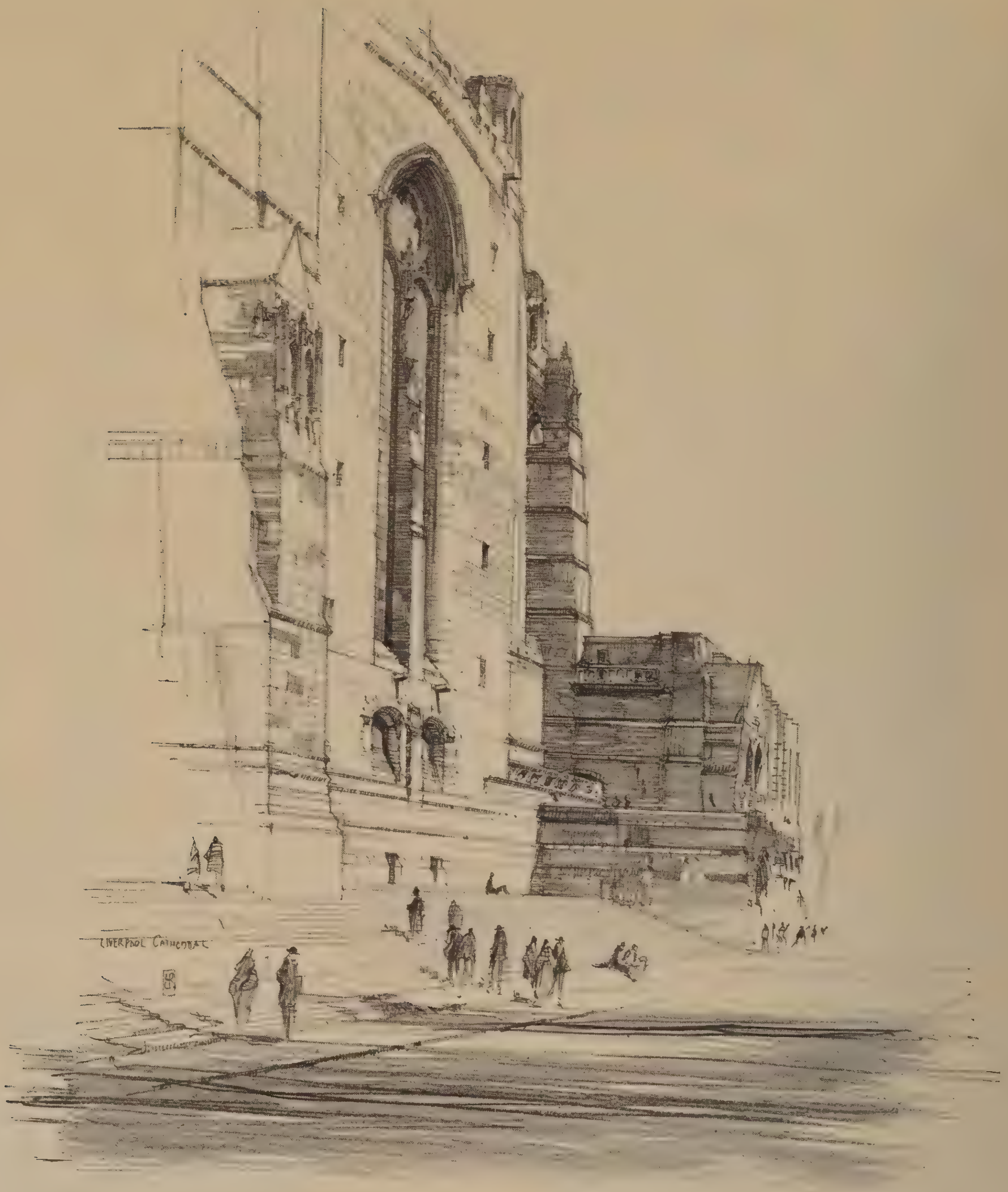

LIVERPOOL CATHEDRAL

SOUTHEAST TRANSEPT, LIVERPOOL CATHEDRAL

FROM AN ETCHING BY LOUIS C. ROSENBERG

The
ARCHITECTURAL
FORUM

Volme XLIV MAY 1926 Number 5

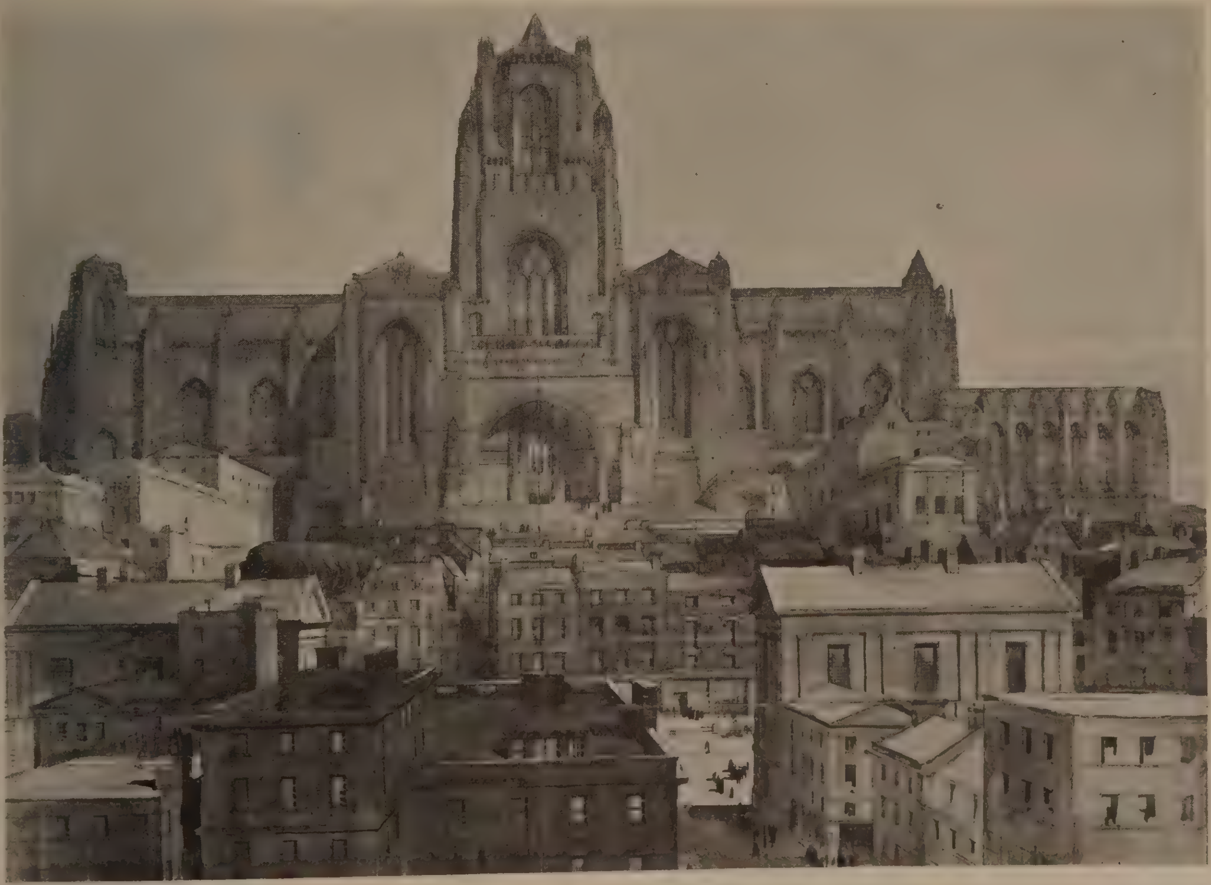
The Liverpool Cathedral

SIR GILES GILBERT SCOTT, *Architect*

By H. G. BIRNSTINGL

IN looking back over the last hundred years, those who believe that architecture affords a reflection of contemporary life might find some justification for thinking, as so many do, that the Church of England is divorced from contemporary thought and activity, for during that period the Church has persistently sought to express itself in terms of Gothic architecture. But true Gothic architecture was the un-self-conscious and spontaneous outcome of certain conditions, beliefs, modes of thought and social organization, as too of available knowledge and materials. Today all these conditions are completely changed, and to continue imitatively to use these architectural forms, to preserve intact the whole paraphernalia of a past mode of expression, is to divorce architecture from life, is to create an anachronism, is to be guilty of an affectation, to disregard propriety.

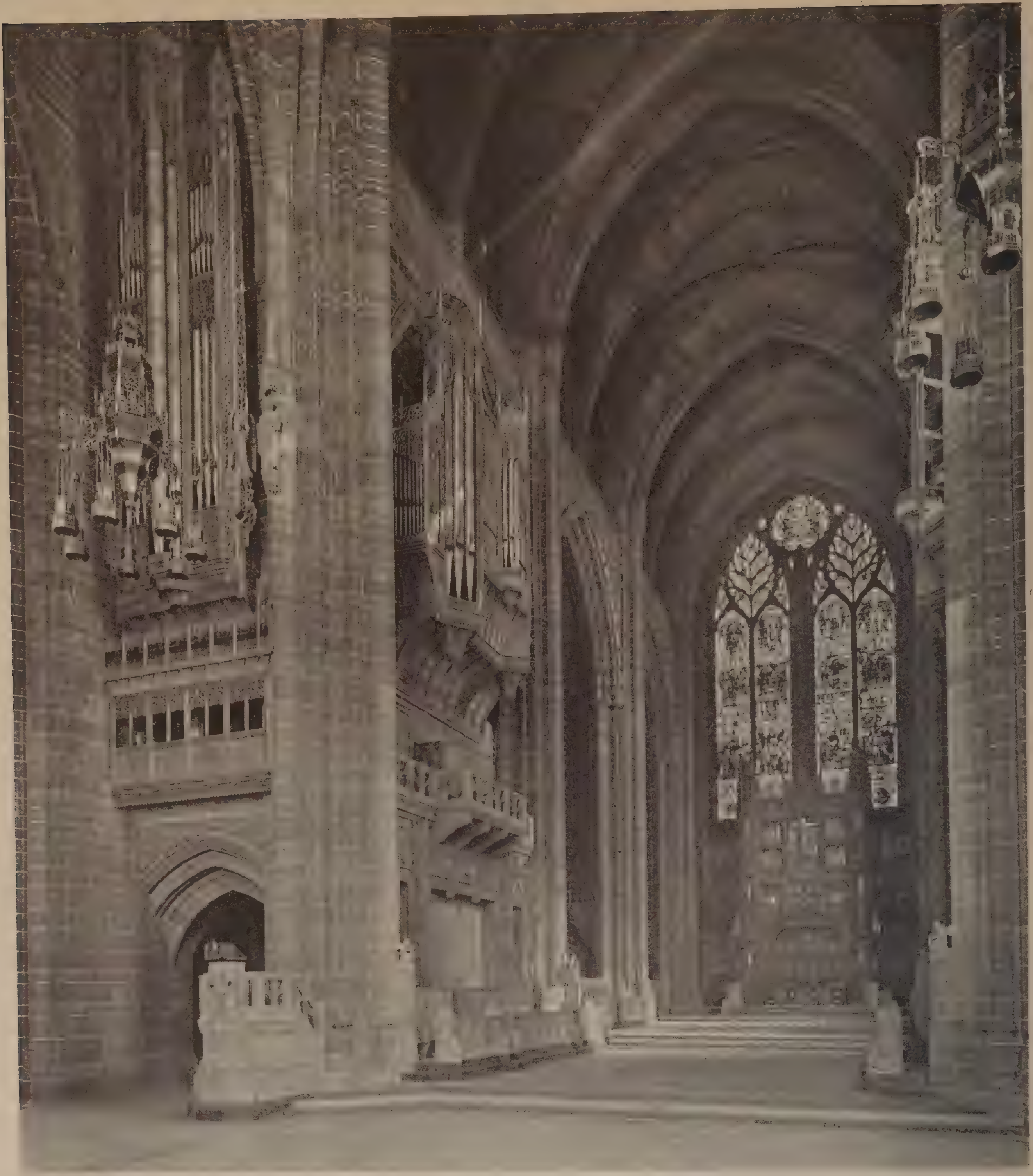
The heated Battle of the Styles of the last century ended in a compromise, by means of which the Classic idiom was accepted for secular buildings, and the Gothic for ecclesiastical; but whereas the Classic has been, except for a brief period of archæological correctness, freely handled, reflecting the temper of the times and remaining subservient to requirements, being now refined and delicate, now coarse and vulgar, now austere and now sumptuous, according to its purpose and the spirit of the age, Gothic has, for the most part, under the heavy, restraining hands of those in supreme ecclesiastical authority, aimed throughout at correctness. In this respect Liverpool



Photos, Stewart Bale, Liverpool

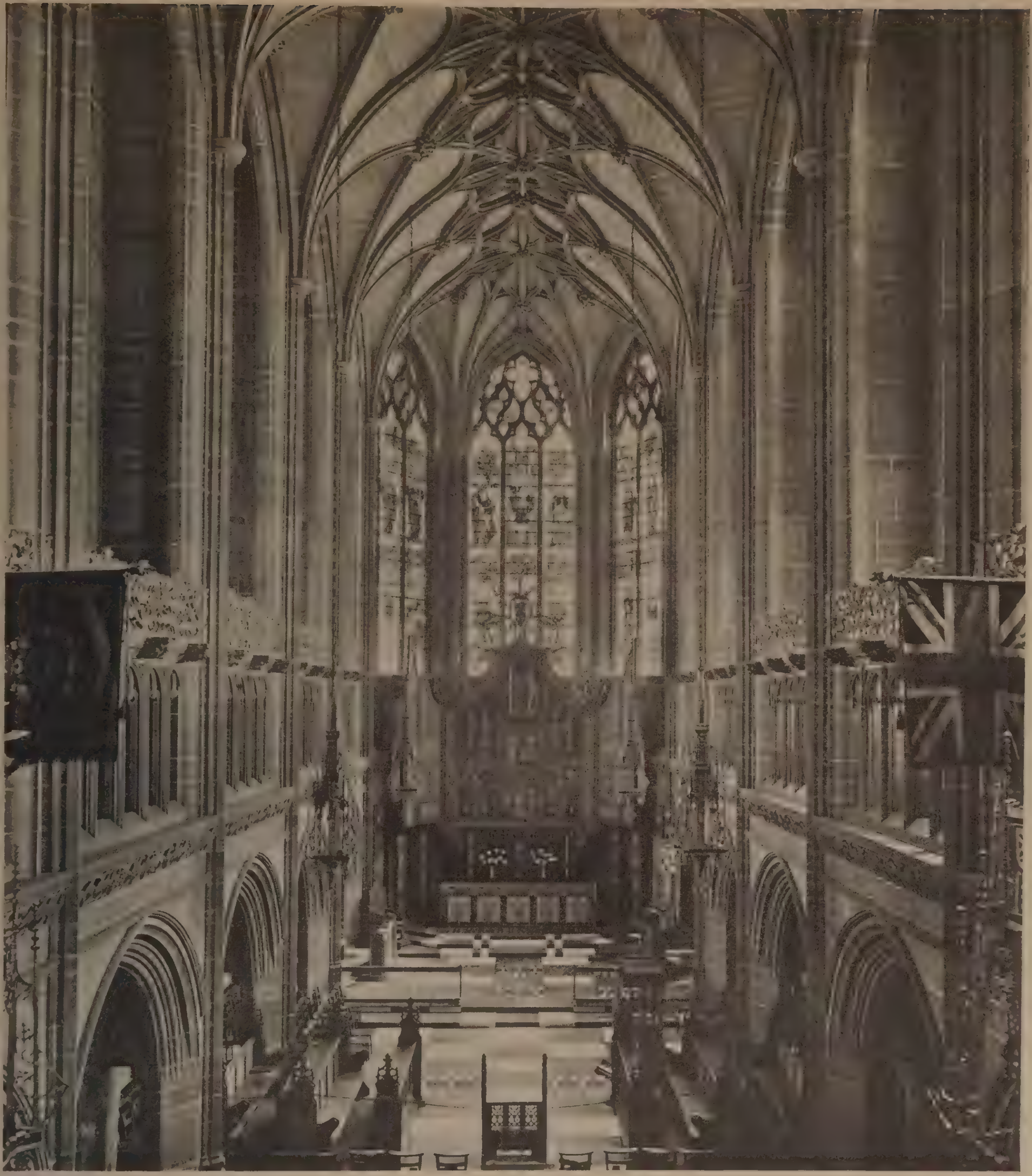
Perspective Drawing of Liverpool Cathedral Completed

Sir Giles Gilbert Scott, Architect



The Choir Looking East, Liverpool Cathedral

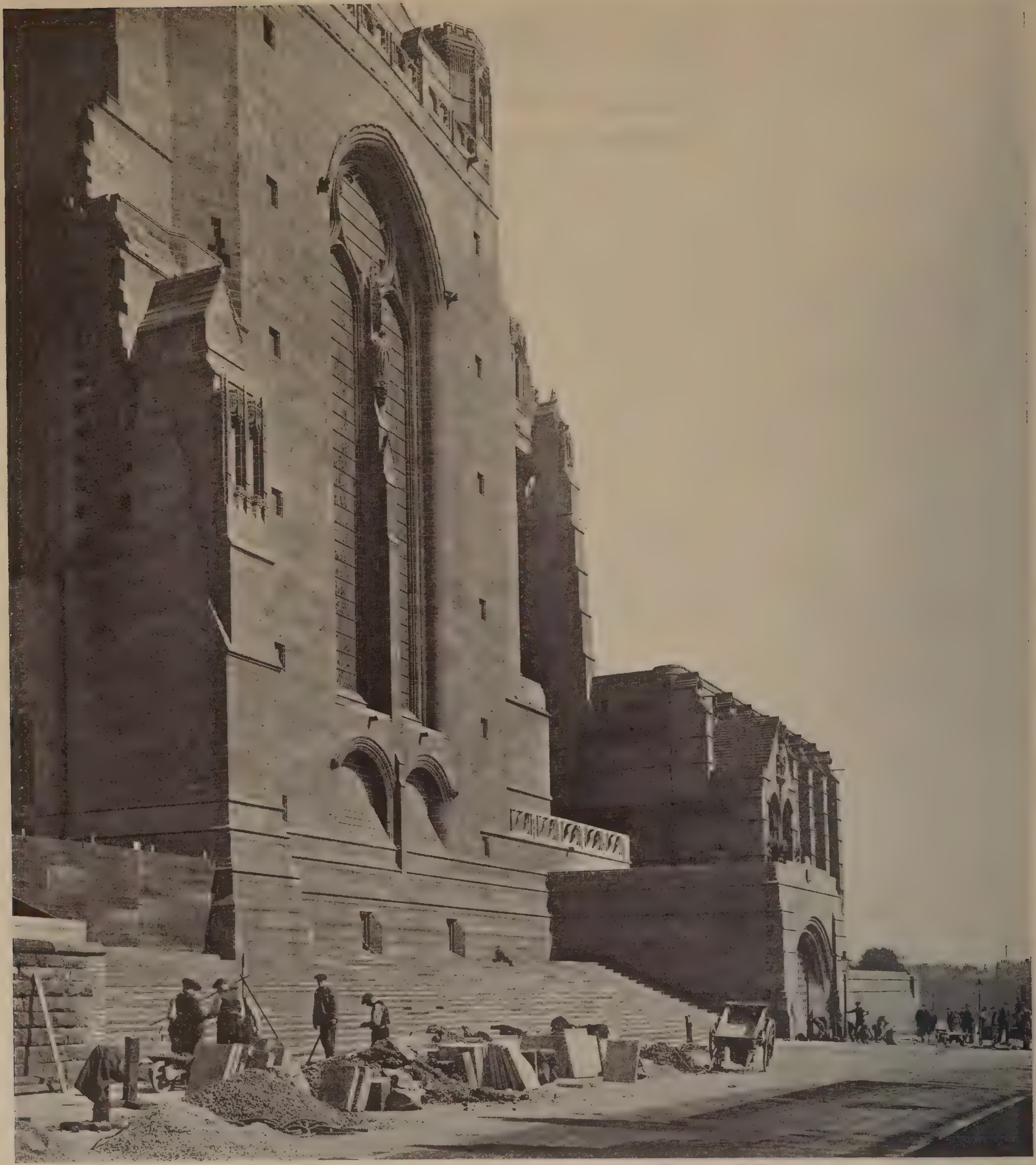
Cathedral constitutes a break with the past, and it may be that it is indicative of a *rapprochement* between religion and life. It must be remembered that whereas before the Renaissance the great churches were an impersonal expression of the age, Liverpool Cathedral is personal; there is nothing fortuitous in its growth; it has been conceived as a whole by one man. And this has resulted in a balance and a unity which are scarcely ever to be found in any product of the great mediæval church builders. Unity and balance are Classic characteristics, for in Classic architecture the whole is always greater than the part. It is this Classical quality of unity that has struck every intelligent observer of Liverpool Cathedral as its outstanding characteristic. Those who strove in the famous Battle of the Styles were separated by differences of outlook which seemed irreconcilable. Those who delighted in analogy, in symbolism, who wished this building to express some moral outlook, who wished to find in art a reference to nature, who looked for a reason or a symbol in every stone, sided with the Gothicists. Those who



The Lady Chapel, Liverpool Cathedral

delighted in abstract form, in balance, in unity, who refused to admit of a relationship between beauty and morality, sided with the Classicists. And so the two revivals proceeded, side by side, their adherents satisfied that the virtues which they looked for in architecture were incompatible. At last, after a century, it would seem that the essence of both of these sets of striving ideals has been distilled into a single building which will rank, when finished, with the finest in the world, and forever close the breach between the opposing factions. It will have achieved, indeed, what has hitherto been deemed impossible.

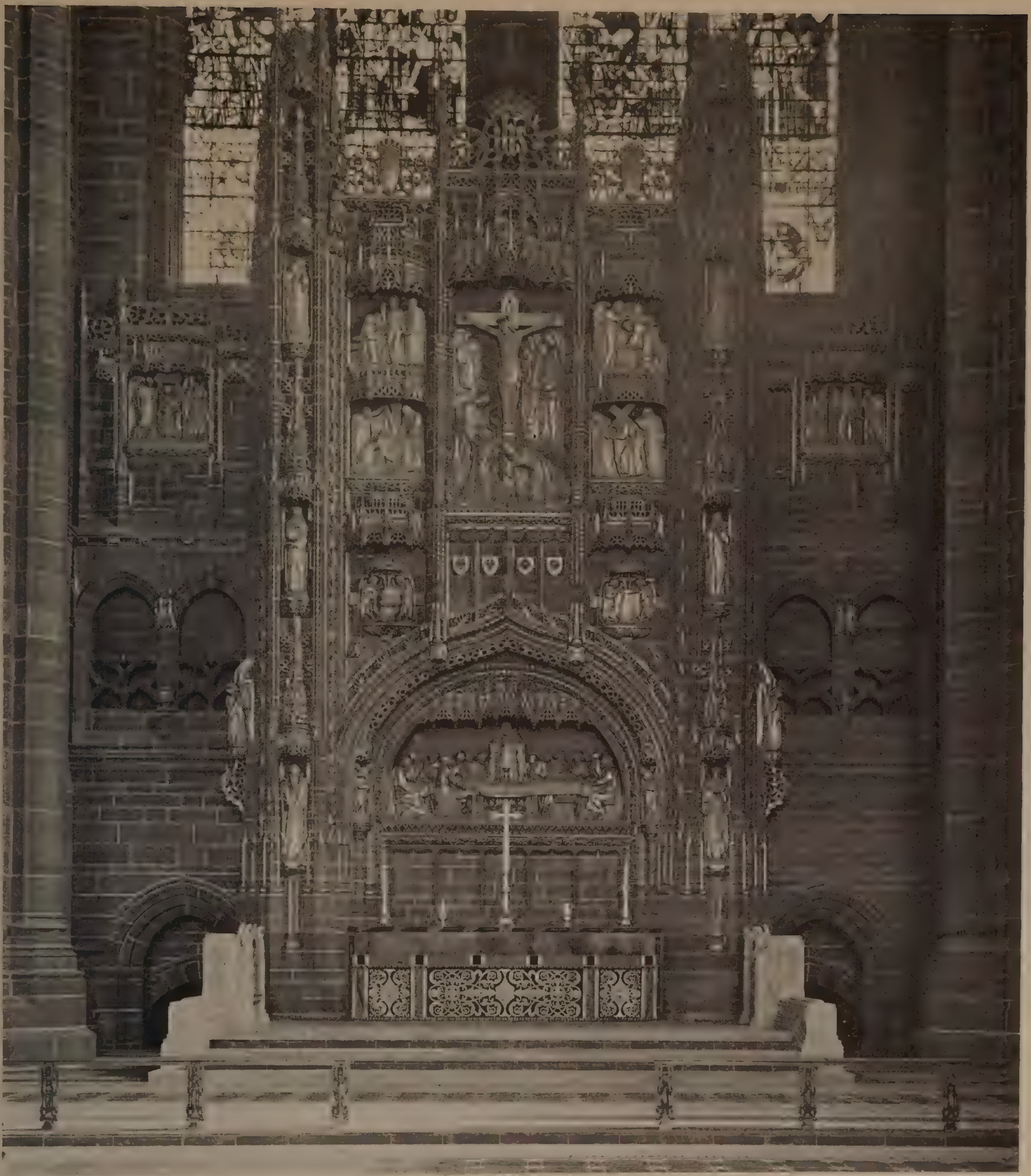
The competition for Liverpool Cathedral was won by Sir (then Mr.) Giles Gilbert Scott in the early years of this century, at the age of 22. The foundation stone was laid by the late King Edward VII in July, 1904. In another July, exactly 20 years later, his son, King George V, was present at the service of consecration of the first part of the building. During that time the original design has undergone certain radical changes, the most important being the substitution of a single central tower for



Southeast Transept, Liverpool Cathedral

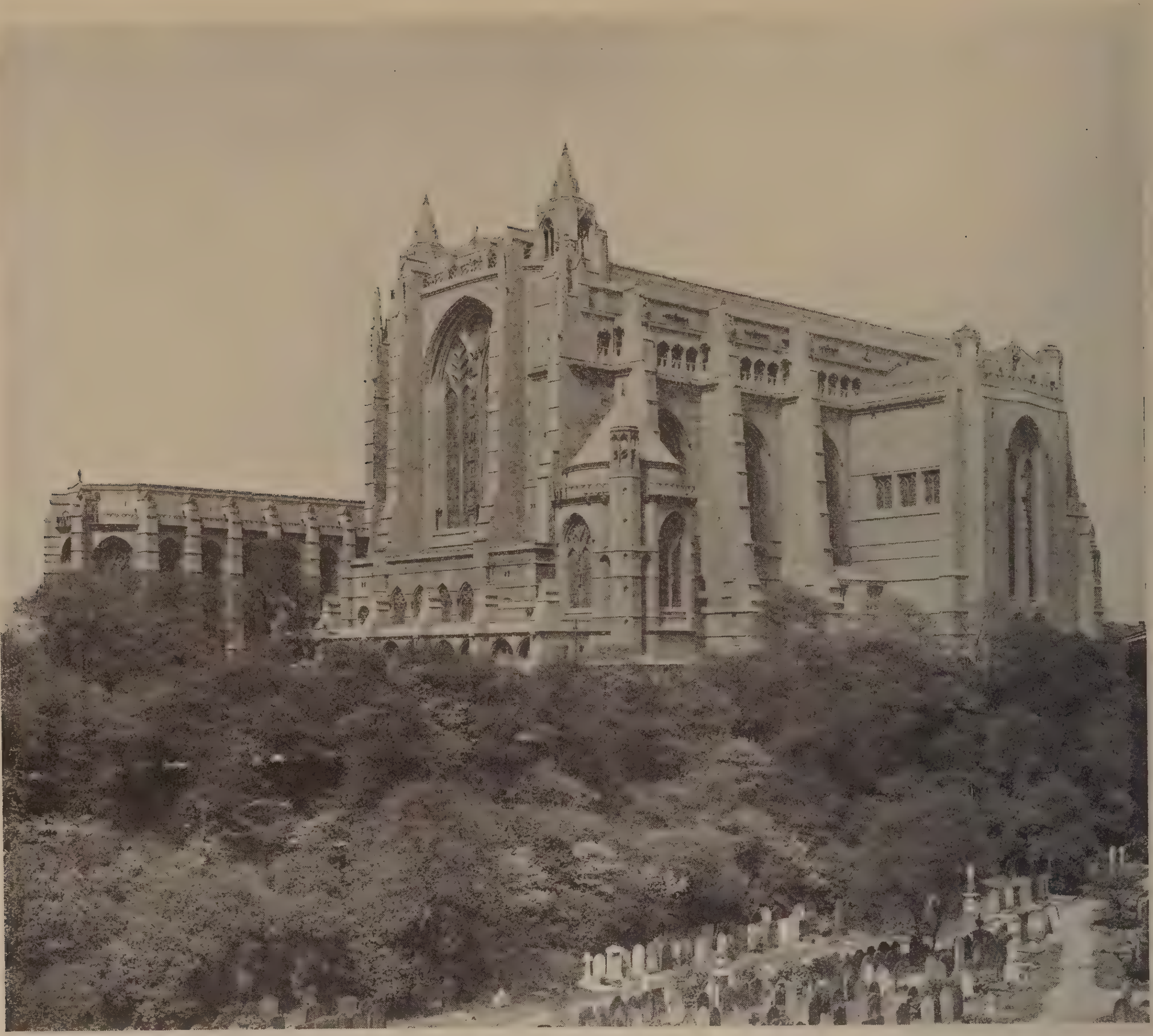
twin towers. Undoubtedly the design has gained by this change, even if certain minor internal vistas have been sacrificed in order to give adequate support to the tower. The church is best seen, perched on its rocky eminence, from the river Mersey, and from here a finer effect of unity will be yielded by the one central tower than by the shifting and confused perspective of two. That the Classic unity already referred to is an integral part of the composition is at once apparent from the plan, which is, with the exception of the lady chapel and the chapter house, symmetrical about both its major and its minor axes.

At the crossing of these axes is a large central space, above which rises the tower. East and west are the two sets of transepts, and between them are the great porches. Beyond the transepts are the two extensions forming the nave and the choir, the former terminating with a narthex, the latter, with an ambulatory, and beyond, jutting out below the main sill level, a range of sacristies. The suggestion of a Classic balance and rhythm, which is so clearly indicated by the plan, is enhanced by two things,—the

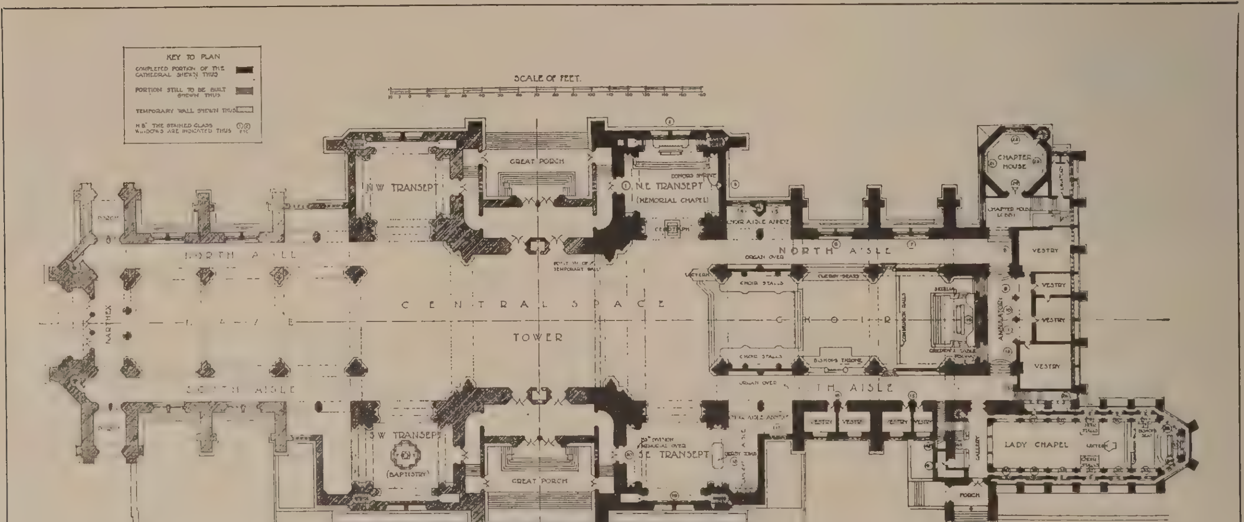


The Reredos, Liverpool Cathedral

bigness of the parts and the large, unbroken wall surfaces. The nave and the choir are each divided into only three immense bays. A mediæval church of such dimensions would have had twice or thrice the number. But if the plan itself departs from Gothic precedents, its structural development displays even more noteworthy departures from tradition, and deals with a problem, the handling of which by Wren at St. Paul's, has been the subject of much criticism. In any vaulted structure, in which the thrusts are alive, the buttresses become the dominating feature. The very existence of the building depends upon their presence at certain fixed points. In most mediæval churches they are seen jutting out at regular intervals from the main walls, sometimes *flying* across from the main to the aisle walls. When Wren designed St. Paul's he was loath to have his wall surfaces broken up, and so he devised the expedient of a screen wall above the aisle. Sir Giles Gilbert Scott, faced with much the same difficulty, has handled it differently and, some may think, more successfully than his rival predecessor. The aisles are



LIVERPOOL CATHEDRAL; ST. JAMES' CEMETERY IN FOREGROUND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PORCH
NAVE
CENTRAL SPACE
TOWER
CHOIR
CHOIR STALLS
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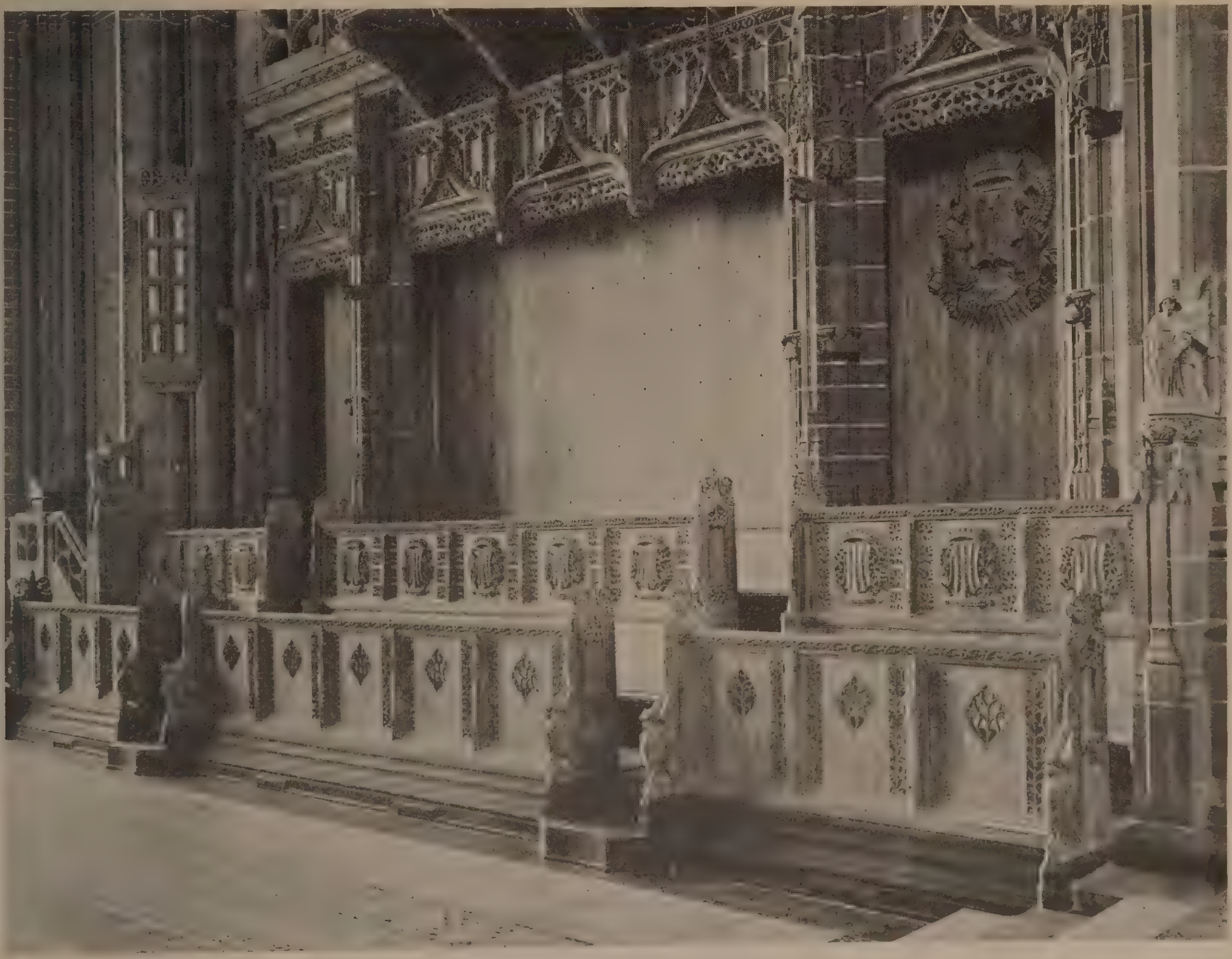
SOUTH AISLE
ORGAN OVER
SOUTH AISLE
S W TRANSEPT
(BAPTISTRY)
GREAT PORCH
S E TRANSEPT
DERBY TOMB
CHOIR AISLE ANNEX
VESTRY
VESTRY
VESTRY
VESTRY
GALLERY
LADY CHAPEL
LECTERN
PORCH

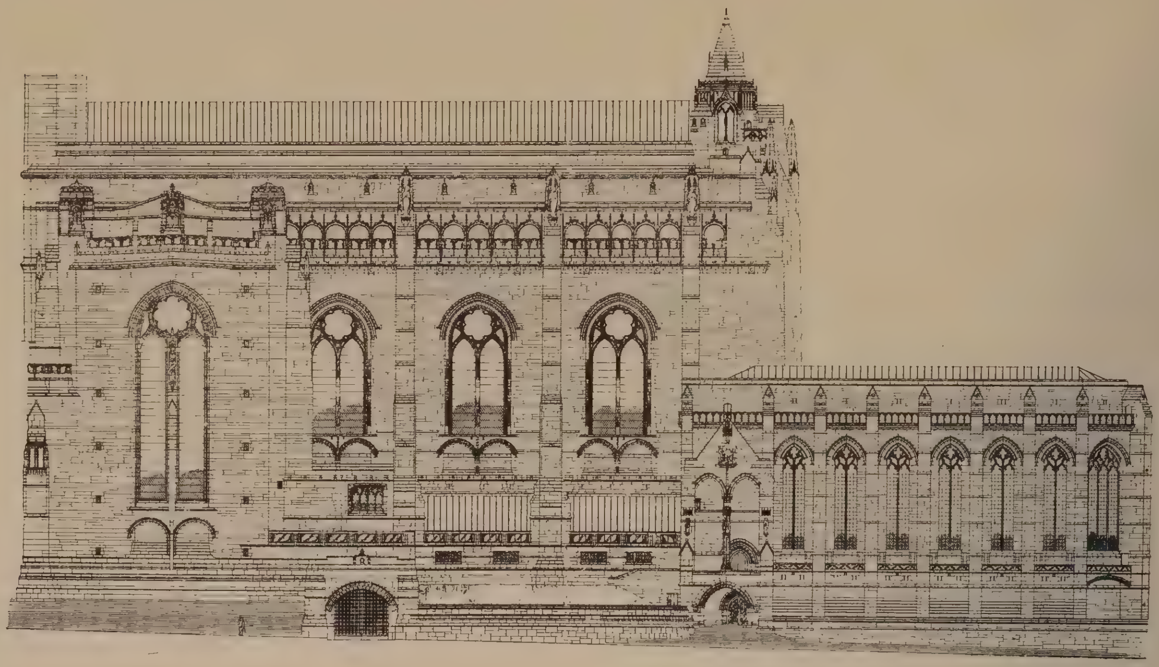
PLAN, LIVERPOOL CATHEDRAL COMPLETE

kept the same height as the main arcade arches, and above runs a triforium the same width as the aisles. The walls between the buttresses are therefore no mere screening device, but are roofed and enclose the aisles and triforium. Above this the buttresses are connected by an external gallery, and here, at this level, is a wealth of detail, on such a scale that it can be appreciated from the ground, but contrasting with wonderful effect with the massive, unbroken surfaces below. With such lofty aisles the clerestory has been altogether omitted, and each bay is lighted by a single two-light window in the aisle wall.

In a vast undertaking of this kind, where of course all the money cannot be raised in advance, there are two alternative methods of procedure; the one is to complete the fabric, carrying out the decoration and furnishing as funds become available; the other is to undertake the erection of the building, section by section, each section, however, being complete in every detail. We have recently had instances of the use of both methods. The Roman Catholic Cathedral at Westminster, opened in 1903, presents an instance of use of the first method, Liverpool an instance of the second. There is now completed a little more than one-third of the whole building, including the lady chapel, the chapter house, the choir, the two eastern transepts, and the space between them, but this portion contains many costly features such as the organ, the reredos, and the great east window. Despite the vicissitudes of a prolonged war, the erection of this great enterprise of faith has marched steadily forward since the laying of the first foundation stone. It is computed that the entire cost will be approximately £2,000,000. The next part to be undertaken is the great central space and the two western transepts. This is expected, without carrying the tower to its full height, to cost some £300,000 and to occupy the next six or seven years. The completion of the nave and the tower will probably take a like period. It must be remembered that in point of size Liverpool Cathedral will be the third largest church in the world, being exceeded only by St. Peter's and the Cathedral of Seville. Its total length is 619 feet, its width 197 feet, and its height to the top of the tower 342 feet. But it was never the ambition of those who originally promoted the scheme to aim at mere size. One of the requirements was for a large, open space in which a congregation of 3,000 persons could, on special occasions, see and hear a preacher and join in acts of public worship. This requirement set the scale for the building, which exceeded in size the anticipations of the committee. Nevertheless, they decided that even such a vast and costly building was



Choir Stalls, Liverpool Cathedral



Elevation, Eastern Portion, Liverpool Cathedral

within the resources of the diocese, if its erection cost were spread over a sufficient number of years.

A red sandstone has been used throughout, giving a rich, red glow to the internal and external surfaces. If the success of a building is to be in any way measured by the quality of the emotions to which it gives rise, Liverpool Cathedral is an undoubted masterpiece. The entrance at present is through the temporary screen wall at the west end. No sooner has one entered than one is overawed by the superb majesty of the place. The lines of the great piers soar up unbroken to the vaults, losing their sharp outlines in the dimness that the vast place encloses. The climax of the vista is the great reredos, constructed of the same red sandstone and thus becoming an integral part of the structure and not a mere adjunct. Like brightly colored threads in the texture of a tapestry, the intricacies of the rich ornamentation concentrated here and there run through the whole design, all contributing to a deep emotional expression of exultation and serenity. Liverpool Cathedral would tend to confirm another abstract theory, that architecture is, at its best, the outcome of the union of emotion and intellect. Fused into it are the finest emotional qualities, but they are wisely tempered by a supreme intellectual control. All this and much more one becomes aware of as one first enters and allows the mind and the senses to react to the full and overwhelming beauty of the place, dispelling once and for all any doubts that may exist as to the capabilities of this age to produce a building equal to the greatest structures of the ages past.

A modern building, just on account of our increased knowledge, is necessarily more complicated than similar buildings which preceded it. A great deal of care has been devoted to such subsidiary matters as heating, ventilation, fire prevention, and lighting. For the heating a combined system of warm air and hot water with an accelerated circulation has been adopted. With this system the heat lost through windows and at similar places is made up for by local hot water pipes and radiators; the remainder of the heat is provided by warm air stoves. On account of the height of the Cathedral and the elevation of the site, special electrically-driven pumps are installed to supply the fire hydrants. Among its electrical equipment is included electric vacuum cleaning apparatus; equipment is of the most advanced type.

And so this stupendous undertaking proceeds steadily forward to its ultimate completion, 15, 20 or 25 years hence. The characteristics of this age, we are told, are cynicism, flippancy, and vulgarity, but of these there is never a sign in Liverpool Cathedral. Is this an indication that the building is false to its period? We think not, for are not these qualities, painfully in evidence as they undoubtedly are just now, superficial? Underneath the soul of man is striving toward better and nobler things. Liverpool has now become the gateway to England. As the great ships draw close, those upon them will see this majestic, glowing pile pinnacled above the city, a visible testimony of the fundamental nobility of mankind; an expression, as magnificent as any that he has ever erected, of his faith. A cathedral is, or at any rate should be, an always visible symbol of truths which are themselves unchanging and eternal.

The Women's Athletic Club, Los Angeles

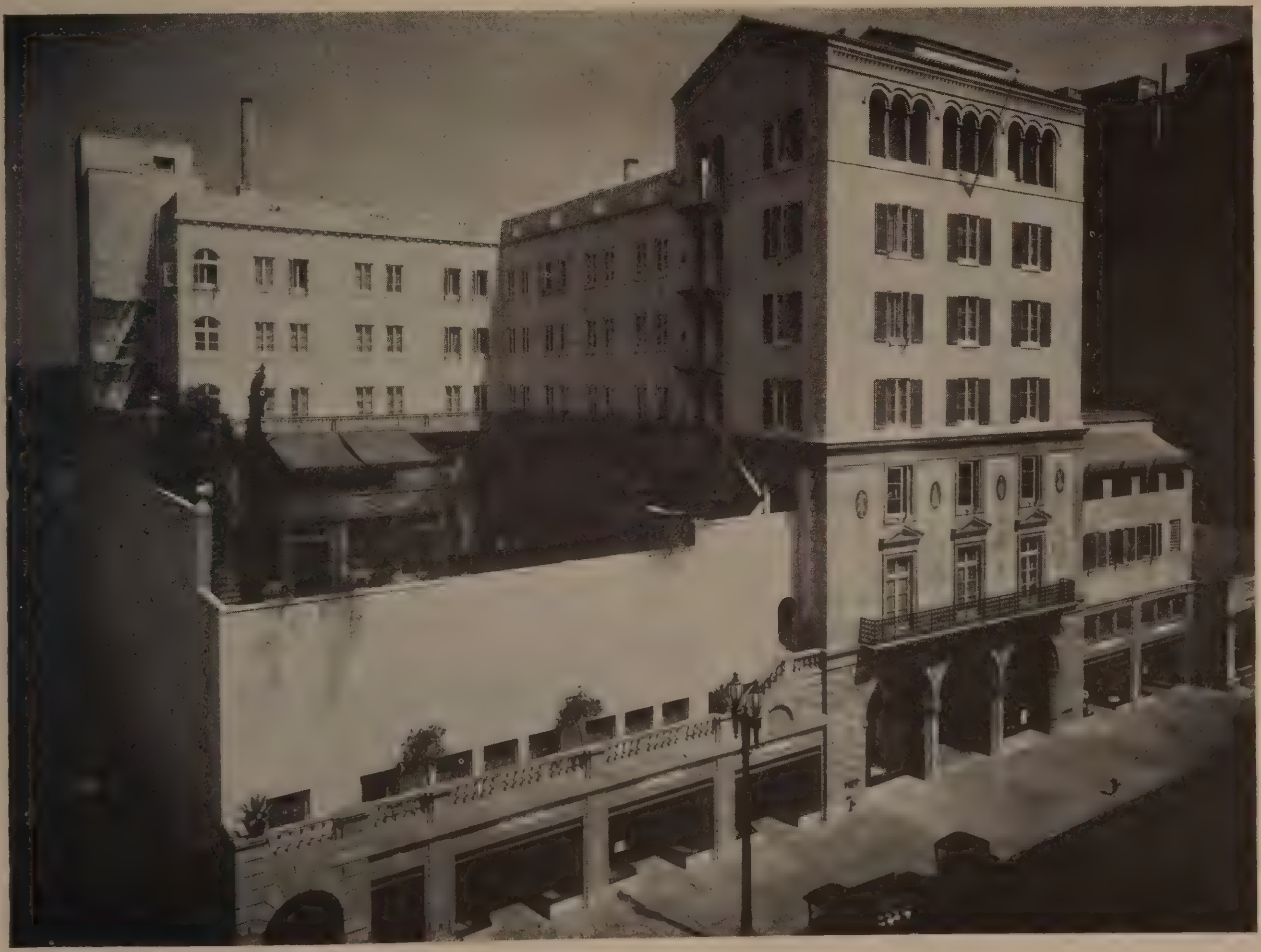
ALLISON & ALLISON, Architects

By MARGARET CRAIG

THE Women's Athletic Club of Los Angeles is one of the most recent buildings designed by Allison & Allison, and is a splendid example of a happy combination of beauty and utility. To understand sympathetically the needs of a group of people, whether it be a club, a church or a school, and to express in a suitable building the unified architectural consciousness of the organization with dignity and with spiritual feeling, combining the various departments of the organization into a functioning unit of satisfying comfort, is not an easy task, but here it has been done with comprehensive skill. Every need has been given thoughtful study.

The structure has been built in the business section of Los Angeles, and is owned and used by a large number of women who find it a convenient center for civic and social activities. In the midst of a rapidly growing city, it has indeed become a quiet haven where several hundred women are permanently housed, where congenial women gather for acquaintance, for entertaining of friends in small parties, and for the reception of guests from other cities. The activities of the club determined the general first-floor plan of the building, which consists, in brief, of a rather formal entrance, including a vestibule; a large inner hall, used as a place to receive friends; the telephone exchange and information desks on one side, and the elevator shaft on the other.

A foyer on the second floor opens into the spacious lounge, into the dining room, and into the offices and dressing rooms. Above this social section are four floors of sleeping apartments, separated completely from the activities of the part of the house open to the more active interests of the club. The roof is reserved for tennis courts, while the lower southwest corner of the building is occupied by athletic rooms, which include a Pompeian swimming pool and a gymnasium. The French doors of the lounge open upon a walled garden which is overlooked by every window and door on this side of the building. The structure itself is of solid concrete, monolithic in type, and is covered with a light coating of warm gray stucco, applied in such a way as to permit the form marks to remain in evidence. The



Women's Athletic Club, Los Angeles

best period of palatial architecture of the early Italian Renaissance was drawn up for the greater number of the details used in the ornament of the building.

Since it is a club for women, and has a specific mission to fulfill, a definite feminine touch has been bestowed upon the details of construction, as in the fenestration as well as in the pediments over the lower row of second-story windows, in the sgraffito work on one section of the facade walls, and in the delicacy of the majority of the pillars and arches. The use of sgraffito on a modern building is not common, but when applied with skill, as it is on this women's club house, it becomes an outstanding feature and an unusual form of enrichment. Sgraffito is an ancient form of art that was practiced particularly in the fourteenth and fifteenth centuries. Russell Sturgis gives as a definition: "The scratching or scoring of the surface, as of fresh plaster, with a point to produce decorative effects. Sometimes, in plaster work or pottery, the scoring is done so as to reveal a surface of different colors beneath. The process is sometimes carried far, even to the decoration of large wall surfaces." In this instance, the color that has been revealed beneath the darker material is of a reddish tinge, a color that corresponds excellently with the tufa stone used in the balustrades, the pillars, and the lower stone walls of the building.

It would be interesting to analyze the fine piece of consistent design appearing in the exterior of this building, which is a departure from the usual monotonous, rectangular elevations that are usually employed in business structures. Here one perceives in the obvious division of the exterior a genuine indication of the functional departments of the interior. The stone entrance, arcaded with three arches, is flanked on either side by groups of shops, a source of revenue to the club. Thus the entire first floor is more formal and allows the actual club quarters to begin on the second floor. This suggested division is accented by a picturesque balustrade extending over the west group of stores and at the base of the garden wall, forming a logical outlet from the garden. The second and third stories are used for social activities, and this function is perhaps indicated by the graceful balcony extending over the three entrance arches which also form a dividing line between the two parts of the building; and by the sgraffito ornamentation which is spread over the broad rectangular spaces between the window openings. The wing at the right is closely tied to the main building by the parallel cornices, and is used for the business offices. It forms an attractive design by itself with its window shutters, the grille over one window and the line of dark openings in the wall of the third story screening an awning-sheltered balcony.

At the left of the sgraffito-decorated section is the second story garden, the wall enclosing it suggesting by its simplicity and height the seclusion of the gardens belonging to Italian villas. The balustrade, which also serves as a fire escape, leads to the outer exit of the garden. In this manner the architects have beautified the necessary structural features which so often are discordant notes in a general scheme of building, and which frequently destroy its harmony.

A simple broad cornice separates the social unit from the four stories of sleeping apartments above. The walls here are of plain texture, broken only with the unvaried, rhythmic lines of dark shuttered windows. This arrangement affords an appropriate expression for the exterior of that portion of the club

Dining Room

Garden Court

house. Just beneath the gabled red tiled roof, topping the entire building, are the three groups of arcaded openings that beautifully balance the first-floor loggia. The upper loggia is used as an outlook for a view over the widely extended, outstretched city.

The central arch of the ground floor loggia forms a frame for the vestibule, suggesting the charm of the club house, since it has a painted ceiling and potted shrubs that contribute softening lines. The handsome carved doors swing open into the main hall that is constructed with three different ceiling levels graduated in height so as to give a feeling of distance and to suggest a division of room space without the use of walls which would divide the area.

As has already been noted, the first division of this floor is into the areas for elevators, telephone booths and information desk. The next division is used as a reception room, where guests are announced and inquiries are made. A tall Gothic bench together with a few formal chairs facing the main doorway reflect the dignity of the room. The ceiling here is formed by exposed cement beams painted with rich colors in conventional design. The third division of this hallway has a lofty ceiling and includes the easily rising stairway. This arrangement naturally forms a little open sitting room or nook at the right of the lower group of stairs that is very cozy with a deep couch, easy chairs, reading lamps and desks. All of these rooms are carpeted with heavy golden rugs that blend well with the carved furniture and with the wrought iron lanterns.

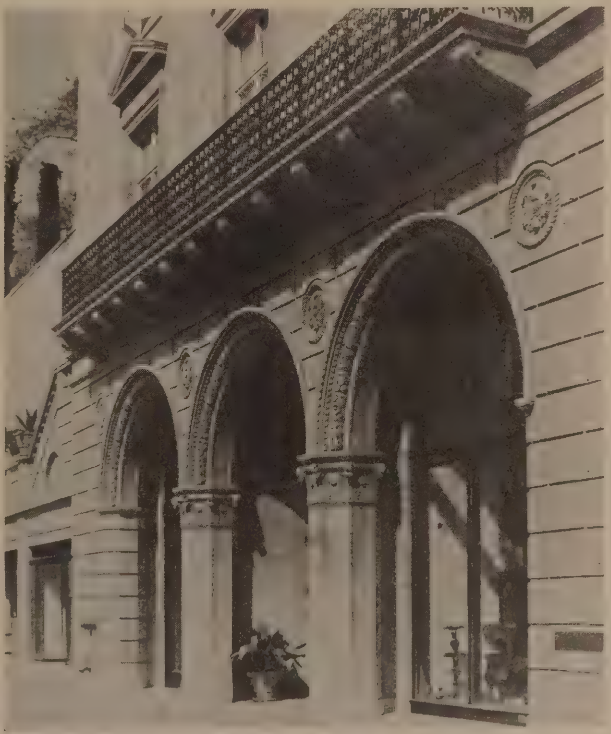
The second story is devoted to the social activities of the club. The ample stairs rise easily to the lobby which opens into the lounge on the left, into a writing room on the right, into the large dining room on the west, and into the business offices and directors' room at the head of the stairs. This second floor is manifestly the heart of the building and centralizes the important activities of the organization.

The lounge is extremely spacious, the tall ceiling adding height. The furnishings are grouped about the fireplace, near the piano close to the windows, and in several corners. The architects have so planned these social rooms that are used for general visiting, for receptions and for recitals that there are smaller connecting rooms, such as the cozy library with fireplace, including little nooks, a silence room that always proves a boon, and a card room on the balcony, with a window overlooking the lounge. These minor details of design bespeak an understanding of human nature, as a builder must be sympathetic with the whims of groups of people who like to be a part of a crowd of people and yet be semi-isolated. The stairway that leads to the balcony card room is quite picturesque, and is in harmony with the furnishings of the room, the chairs and tables Chinese red, the hangings of black, red and yellow. A small dining room is also included.

The main dining room extends across the southern portion of this section of the building. Its ceiling is lofty and beautifully painted; the windows are tall and rather narrow and hung with golden brown curtains, tied back with heavy cords. At one end of the room is a large buffet, and tall candelabra of wrought iron are symmetrically placed on either side of this heavy piece of furniture. At the other end of the room is the plainly constructed stairway, an actual necessity that has been made a thing of beauty.

Perhaps the most unusual part of the club is the second-story garden. The broad French doors of the

Stairway in Garden Court


Detail of Entrance

lounge and of the smaller dining room open directly upon this refreshing space of outdoor beauty, in reality a very integral part of the general structure. It is quite amazing how a substantial garden of broad proportions could be made of practical value so far above the street level, and could be so cleverly and skillfully furnished with trees, shrubbery and garden seats. The foundation of the garden is the same as the structure for any tall, modern building, a comforting assurance for those who might doubt its stability. Its architectural setting is indeed most charming. It is interesting to note that the ornamental balustrades, picturesque arcades, terraces and stairways accented with pillars and railings of tufa stone, are all functioning, and are not applied as mere features of embellishment. They are all structural.

Miss Florence Yoch, the landscape architect, was called upon to plant the garden, and she used as a type the gardens of northern Italy, since these are known to be more simple and naïve than those around Rome. Her endeavor was to maintain continuously an atmosphere of age and delicate reserve, and she found Italian material more suitable. She used the cypress for height and the gnarled olive trees to furnish a thin screen of lacy pattern so as not to cut off too much light from the neighboring rooms. Another reason for the choice of these trees is that both varieties can easily be transplanted, and are capable of withstanding the winds of the second-story exposure. The main part of the garden is carpeted with grass. The use of color in the garden is confined to the flowering plants, which are changed according to season. Rose vines, wistaria and ivy are trained against the walls. Oleander, fragrant olive, boxwood and myrtle are used at the borders of the lawn.

Each of the wall treatments of this beautiful Tuscan garden forms an individual pattern of architectural design of lively color and decorative line. The wall of the building is broken by an arcade balustrade that parallels the ceiling lines of the lounge of the interior. The tufa stone pillars that uphold the arches are of a pastel pink that blends exquisitely with a wall background of vivid blues and luminous yellows. The stairs that lead to the arcaded balcony above the terrace on the south side of the lawn have a landing a few steps above that extending into a corner garden retreat. This is made very engaging with stone benches and seats, all partly hidden by a leafy bower of shrubbery and olive trees. Miss Yoch says that one day she playfully pictured some olive trees walking right up the steps to the second-story arcade. As a consequence, she planted several trees along the stairway, and they were found to thrive as well as they do in Italy, often in the most unpropitious places. The arcades on either side broaden out into a terrace on the north exposure which forms another retreat and adds one more to the comfortable details of the club house. A brightly colored awning is swung over part of this upper terrace and gives a touch of gaiety to the setting.

Thus every part of the club house has been logically united to the whole plan, and from every corner there is some view of a variety of fine architectural details, arched openings, colonnades and alluring corners in which to meditate or converse. The building is an expression of the finest and most romantic period of domestic architecture, fittingly adapted to form the home of an active group of women who are furthering the improvement of the social and civic usefulness of their community.

One Corner of the Garden Court

House of D. C. Prince, Esq., Schenectady, N. Y.

THOMAS HARLAN ELLETT, Architect

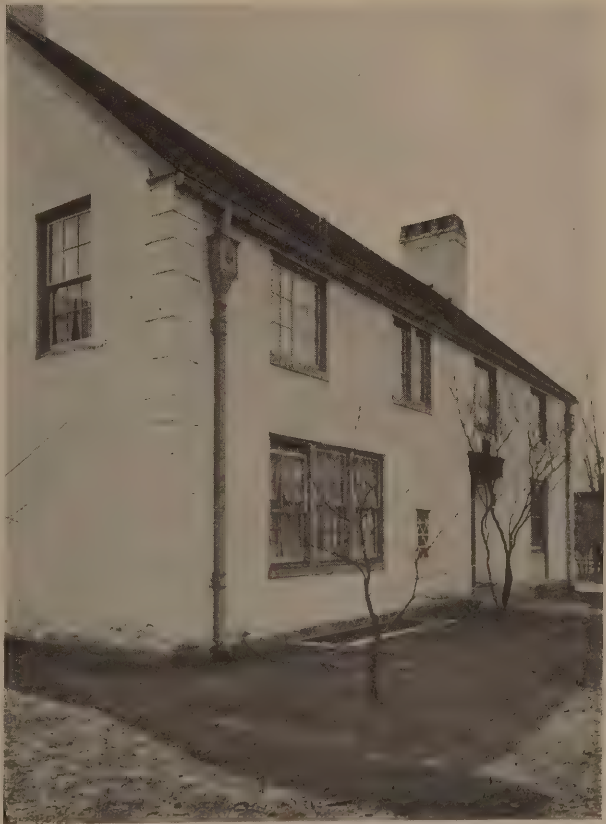
IN the design of the house in Schenectady, which we have under present consideration, the architect, Thomas Harlan Ellett, has done two things. First of all, at the very outset he has shown very plainly a regard for local precedent in casting the contour of his masses and determining the broader characteristics of style; then, in the second place, he has stamped the finished result with the clear impress of a distinctly individual interpretation.

Before entering into an examination of any of the particulars of style, however, it will be to the point to note in a general way the more conspicuous features of the fabric, indicating the materials and the manner of their use. The walls of the north or entrance front, and those of the south or garden front, are of stucco worked down to a fairly smooth surface, while the walls of the gable ends, at the east and west, are of common brick whitewashed. The eastern extension for the service quarters and the garage is stuccoed and whitewashed below, with quoins formed of unwhitewashed cement blocks, and a shingled gable end above. Cedar shingles cover the roofs and are also used for the walls of the upper story of the south front. Such are the materials used.

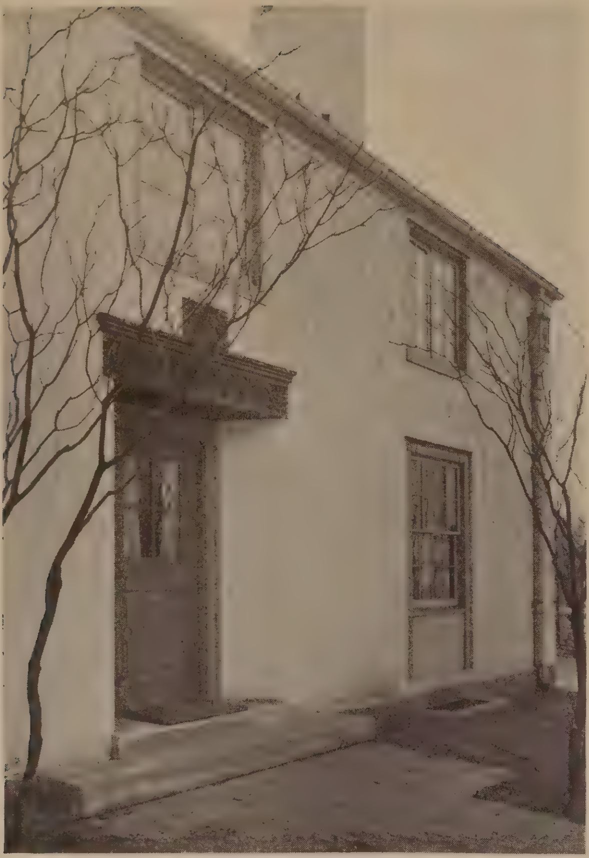
Inasmuch as the house stands in the heart of the region with which the early Dutch settlers of New York were closely identified, a region where ingrained Dutch traditions still manifest their wonted vitality, it was quite natural to fix upon a Dutch form of architectural expression as long as no other specific preference was to be taken into account. Indeed, a Dutch mode would be the first thing suggested by the imagination in shaping the initial stage of design. The Dutch Colonial type is not only indigenous to the spot in its development but it has also shown itself through many generations to be eminently fitted to the local conditions of climate, conditions which demand sturdy structure, compactness and warmth to withstand the rigors of winter weather and, at the same time, a general scheme of arrangement that will ensure airiness in the heat of summer. The old Dutch colonists, unconsciously it may be but none the less certainly, developed such a type of house under stress of circumstances and in the light of experience. To have overlooked or disregarded the claims of this type would have been a foolish denial to the promptings of the imaginative faculty as well as a negation of common sense in house designing.

Outwardly the house conforms in appreciable measure to the gradually evolved precedents that marked the later phases of the American Dutch house,—enough to indicate the source of its derivation so far as its general lines and contour of mass are concerned,—but the indications of ultimate ancestry do not extend to the treatment of the windows, the use of an overhang, the introduction of a balcony, the employment of quoins, or sundry other features that enter conspicuously into the composition to contribute very materially to its strongly individual aspect and to evidence the originality of its conception. With reference to these items of design and construction, the architect has exercised the liberty of interpretation and interpolation in the light of circumstances and personal choice. To such a course there can be no possible objection advanced, except on the part of archæological purists to whom architecture is not a living organism but a dead letter, and who would suppress initiative and invention, stifle all healthy, legitimate growth, and kill the very traditions they profess to hold in such reverence. Good archæology is one thing; mimetic triviality is entirely another thing.

In the matter of materials, there has been perhaps a closer adherence to Dutch Colonial usage, although here again tradition has served the purpose of suggesting background and has not figured as a rigid, prescriptive canon to shackle freedom of action. The Dutch builders were invariably opportunists in the choice of the materials they employed in the course of construction. Stone, weatherboarding, stucco, brick, —whatever came readily to hand and filled the



Main Facade, House of D. C. Prince, Esq.



Entrance Detail

needs they had to meet,—they used without scrupling about the dictates of established custom. Consequently, they produced the many fascinating and varied combinations that we now sincerely admire. In this Schenectady house the use of varied materials in combination is not only perfectly logical but agreeable and, in point of texture and color, the results are notably happy. As to texture, the whitewashed brick walls of the gable ends call for a word of commendation, while the juxtaposition of uncolored cement quoins and white stuccoed walls in the garage and service wing is a bit of pleasant ingenuity. Incidentally, such engaging conceits as the wren house atop the gable of the garage, the carved oak lintel of the house door, and the boldly contoured oak brackets beneath the overhang, all add their share of interest and accent to the ensemble in which diversified materials and textures are such appreciable factors.

Inwardly, no following of Dutch Colonial precedent in plan can be discovered, for the very good and sufficient reason that there was no precedent of plan, save the precedent of absolute independence and license to do whatever each builder found would best suit his own convenience. In this respect, perhaps, the architect may be said to have followed Dutch Colonial precedent completely, for he has adopted a plan economical of space, comfortable, adequate in pleasant exposures and light, and instinct with informal domesticity. Such were the qualities of plan in the old Dutch Colonial houses with their endless diversity and what often seems to us their fortuitous

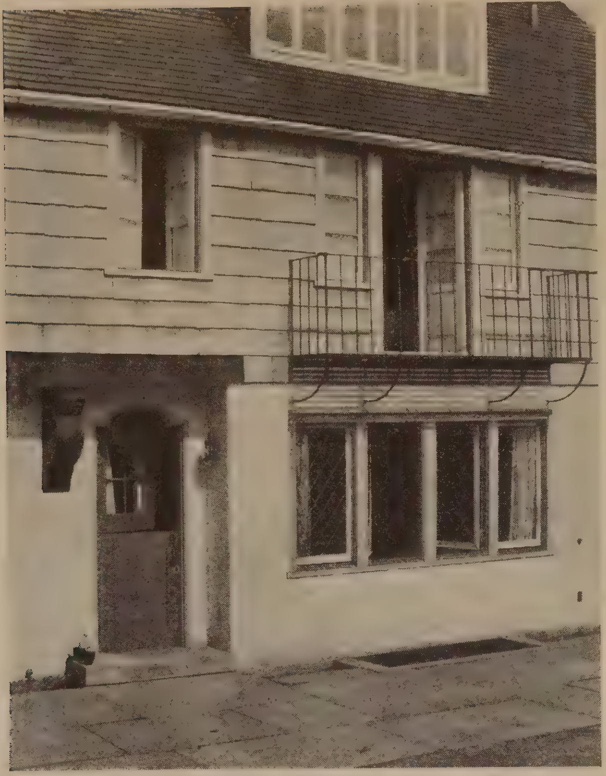
View of House and Garage of D. C. Prince, Esq.

arrangement, and such is the quality of plan of this modern Schenectady house which is being considered.

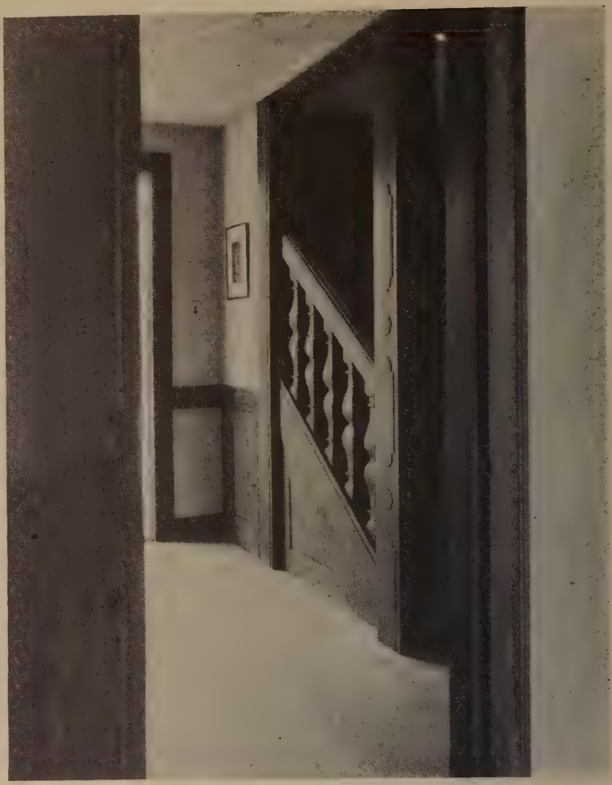
It is plain by now in what manner the architect has done the two things it was said at the beginning of these paragraphs that he had done. It remains to say, however, that in his doing of them he has added one more item to the increasing total of the sane and wholesome development of domestic architecture in America. This contribution he has made not so much by the design of the particular house here being considered—whatever its individual merits may be—as by the spirit in which he has created the design and the principles manifested in its working out. He has quite obviously not disregarded tradition and precedent. Had he done so, the contour of the house would not have been reminiscent of the dwellings built by the Dutch colonists and their descendants; there would have been no white pine staircase with balustrade of engaging design, nor would there have been the admirable pine paneling in the dining room, fashioned in an early New England manner. At the same time, he has not refrained from exercising his imagination very actively in departing from local precedent by introducing features that never had any association with Dutch Colonial architecture,—such, for example, as casement windows, the balcony on the garden front, the overhang with its shaped oaken brackets, or the wren house surmounting the gable of the garage. He has also exercised his imagination in combining in one composition various features of widely divergent origins. The design of the

Dining Room

Living Room



Detail, South Front



Entrance Hall and Stairs

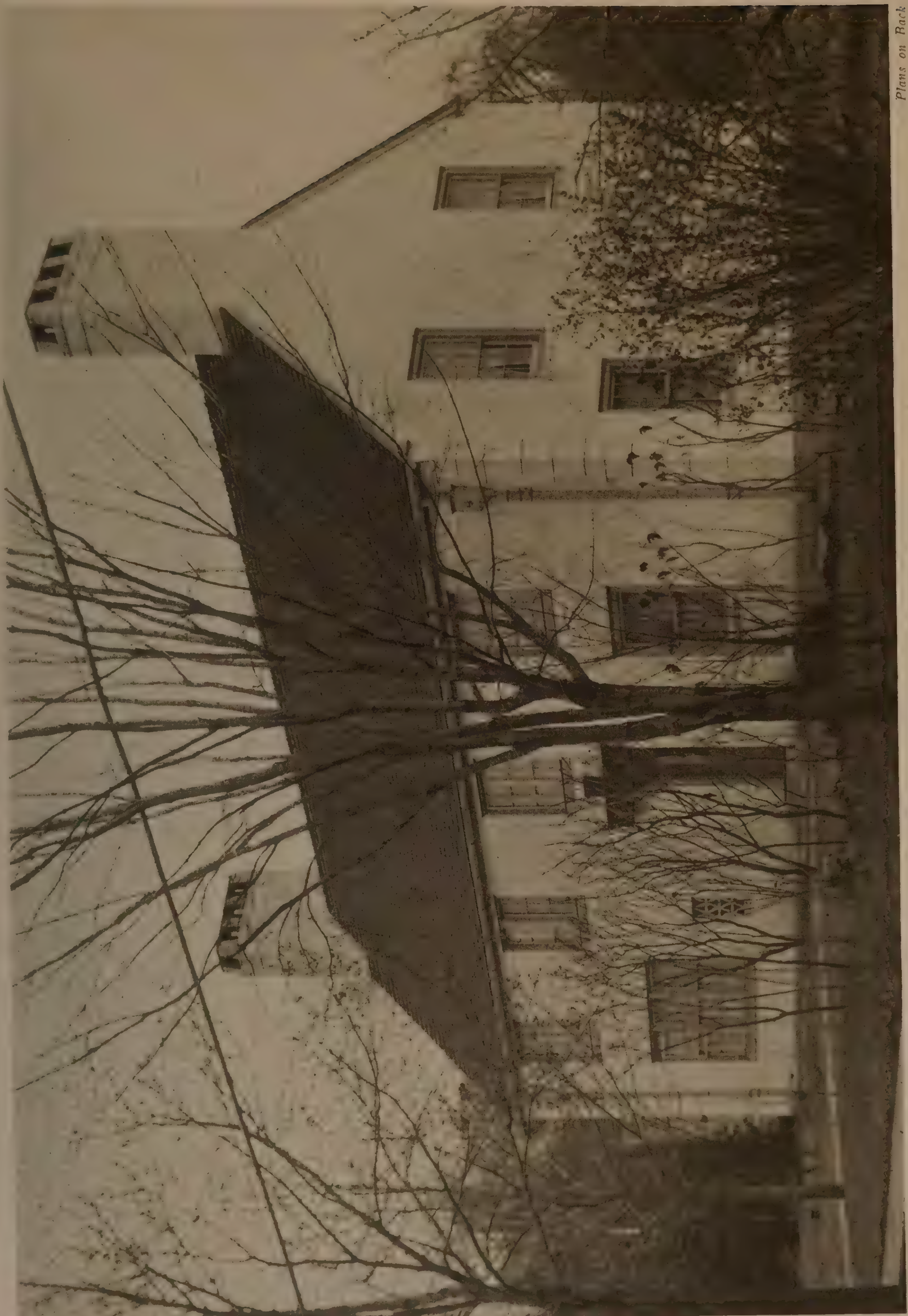
balustrade for the staircase is an adaptation from an Italian prototype; the raised and shaped panels that appear on the newel post are distinctly of seventeenth century Bolognese character; the oak brackets beneath the overhang belong historically to seventeenth century England or New England; the dining room paneling finds its prototype in early Connecticut work; and some of the casements are French in their derivation. Other instances might be cited of freedom exercised in the important matter of design.

In this departure from strict precedent and introduction of incidents drawn from widely different sources, imagination has been brought into play, but imagination has always and everywhere been tempered with common sense and discretion. Knowledge of precedent, respect for tradition and discernment in judging when and where it is expedient to depart from them, on the one hand, and imagination guided and tempered by common sense and an appreciation of the fitness of things, on the other—these are the fundamental elements of the truest and most fruitful originality; these are the qualities that have contributed most to the vitality of the best modern domestic architecture in America and that have given it preëminence above architecture of other countries.

There are several factors always militating against the growth and continuance of such vitality. One of them is imperfect knowledge of precedent and the blind adherence to only a part of tradition, exalting it to the position of a sort of fetish, until design becomes a perfunctory, ossified thing, stupid to look at and so hopelessly inelastic that it is utterly incapable of any freshening variation or of adaptation to the demands legitimately made upon it. Of this sort of thing we have an apt illustration, often too painfully evident, in the Georgian or so-called "Colonial" manner as it finds expression in the work of certain architects who are culpably content with a superficial knowledge and an unworthy, inadequate conception of its flexibility and resources. By way of Nemesis for this sort of thing, there are plenty of people to be found who are willing to entrust a moderate-sized Georgian house to a building contractor, without calling in an architect, because they feel that plan, design and details are all merely standardized routine matters to which architectural skill is not necessary.

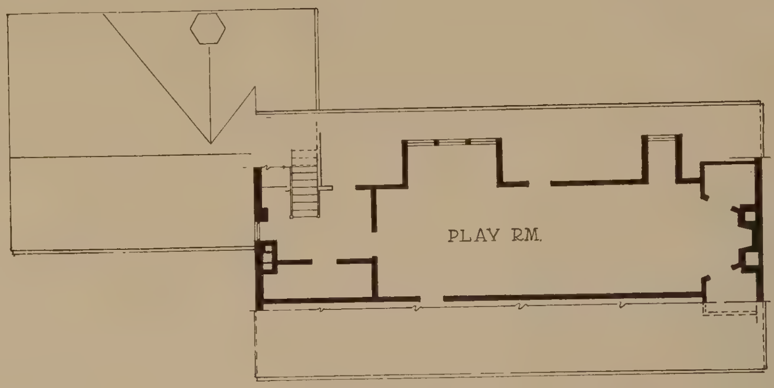
The other factor prejudicial to vitality is the deprecatory attitude so frequently assumed toward the faculty of imagination. Exercise of imagination on the part of the architect is only too likely to be looked upon with grudging tolerance and shamefaced concession, as though it were a thing to be guarded against and mistrusted. It is all right, apparently, for an engineer to draw freely upon his imagination in conceiving bold schemes for viaducts, canals or bridges; but an architect's imagination, by some strange process of reasoning, it seems, ought to be bottled up. As a matter of fact, the part imagination ought to play in the work of an architect cannot be too strongly emphasized, nor its rightful place too insistently asserted,—so long as imagination goes hand in hand with common sense in house building.

In view of this comment, it is gratifying to note the evidence of a wholesome, constructive point of view displayed in the design of this house at Schenectady in entire accord with its surroundings.

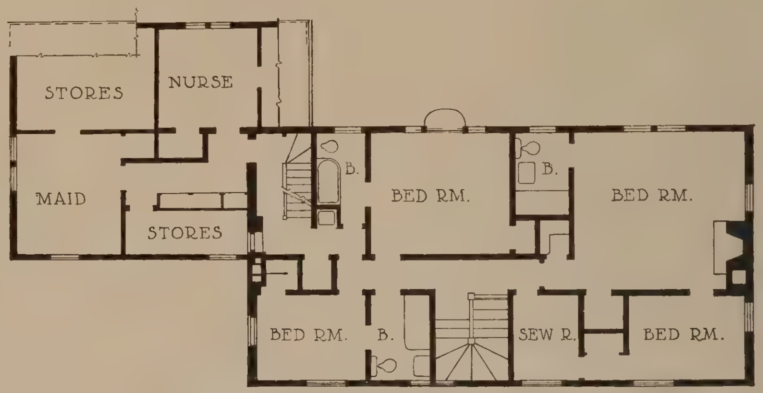


Plans on Back

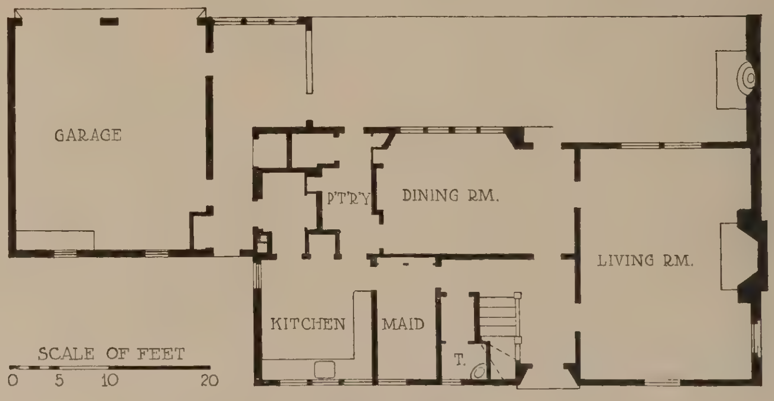
HOUSE OF D. C. PRINCE, ESQ., SCHENECTADY, N. Y.
THOMAS HARLAN ELLETT, ARCHITECT



THIRD FLOOR


STORES
NURSE
MAID
STORES
B.
BED RM.
B.
BED RM.
BED RM.
B.
SEW R.
BED RM.

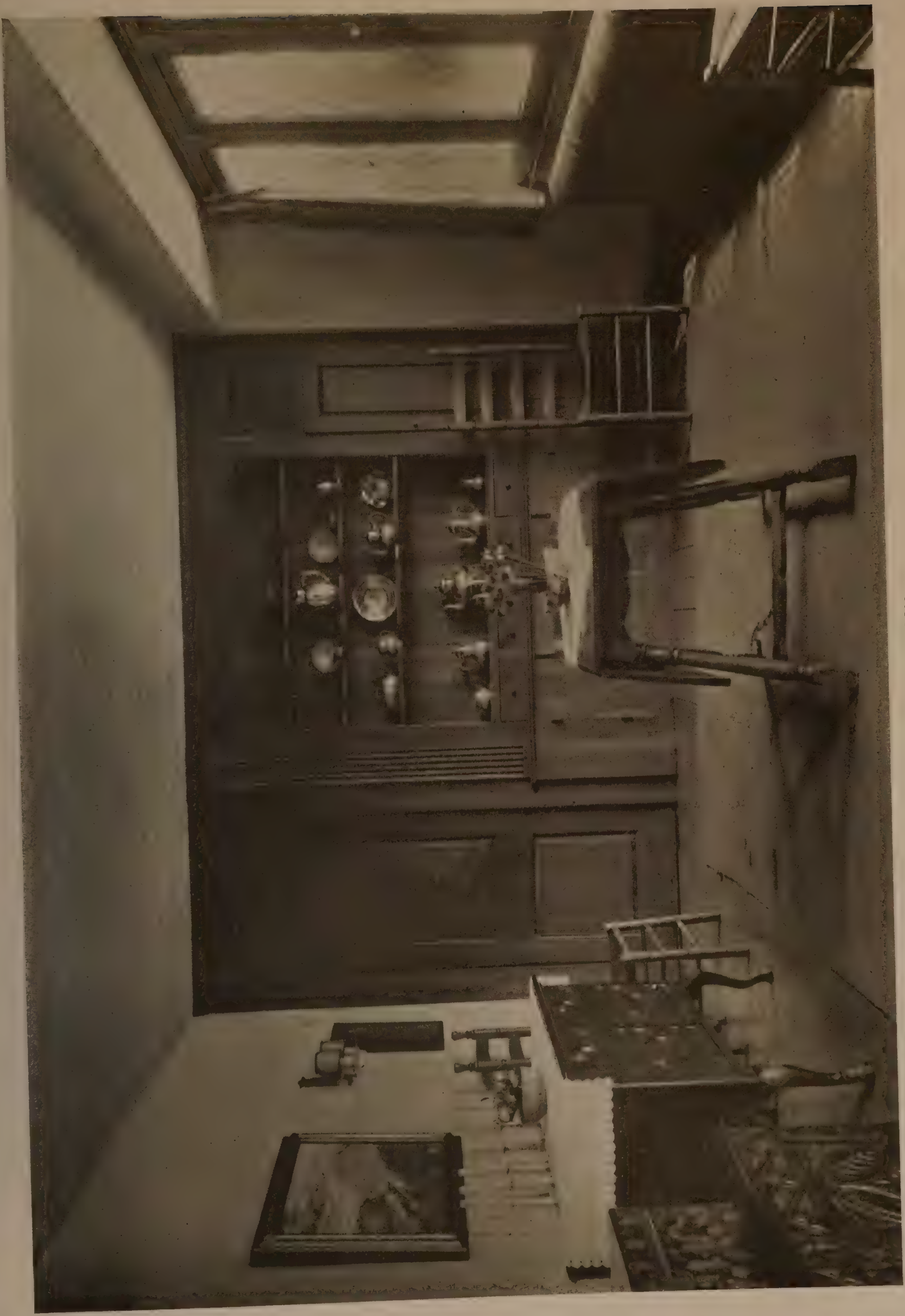
SECOND FLOOR


GARAGE
P'T'R'Y
DINING RM.
LIVING RM.
KITCHEN
MAID
T.
SCALE OF FEET
0
5
10
20

FIRST FLOOR

PLANS, HOUSE OF D. C. PRINCE, ESQ., SCHENECTADY, N. Y.

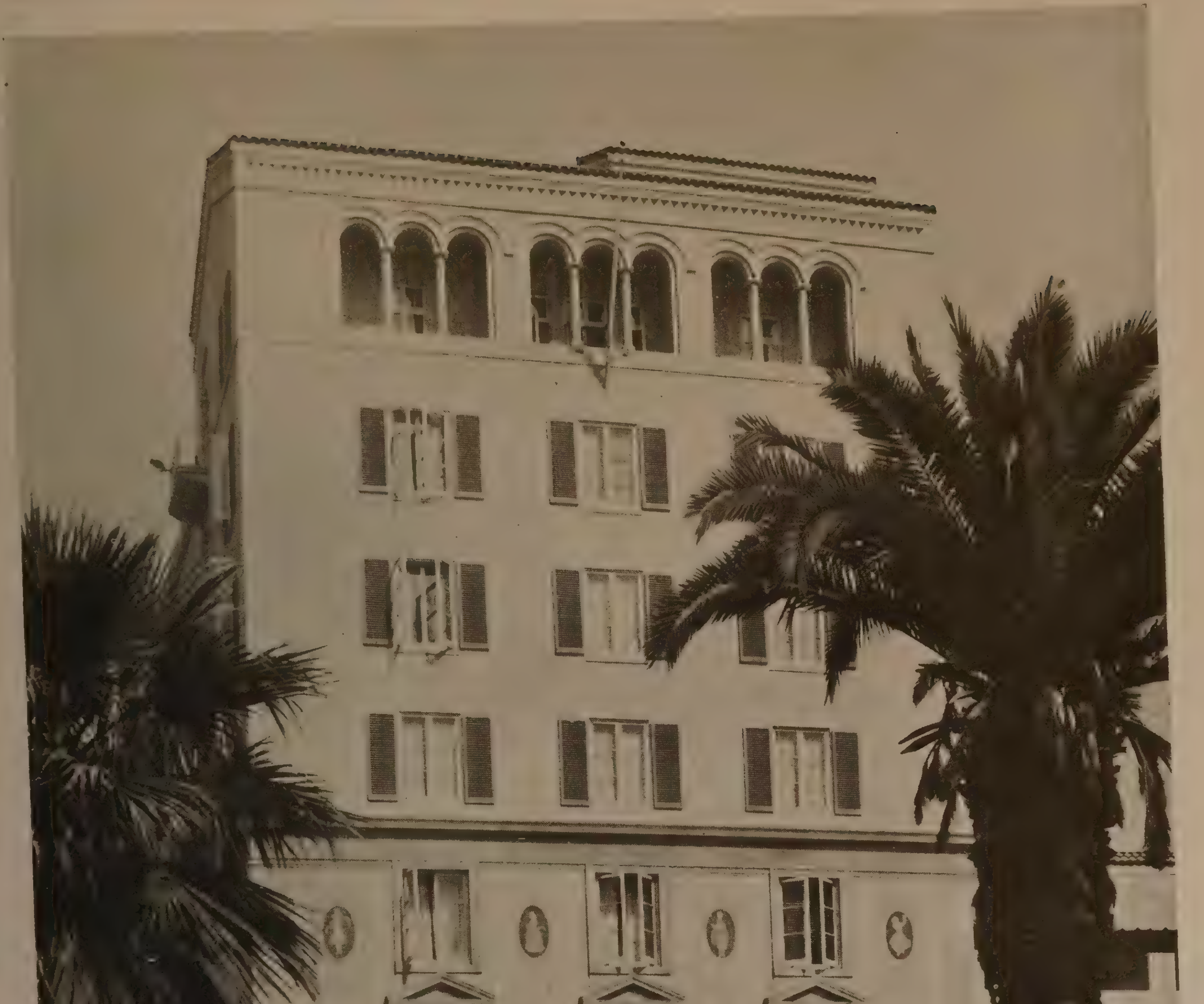
THOMAS HARLAN ELLETT, ARCHITECT



DINING ROOM

HOUSE OF D. C. PRINCE, ESQ., SCHENECTADY, N. Y.

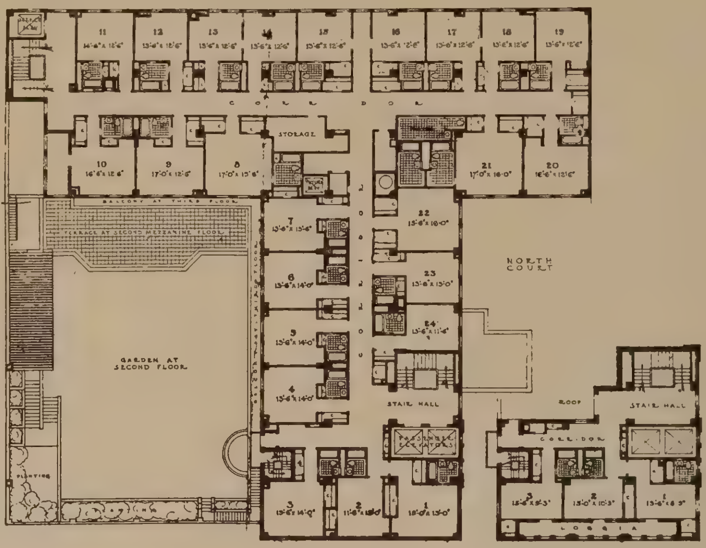
THOMAS HARLAN ELLETT, ARCHITECT



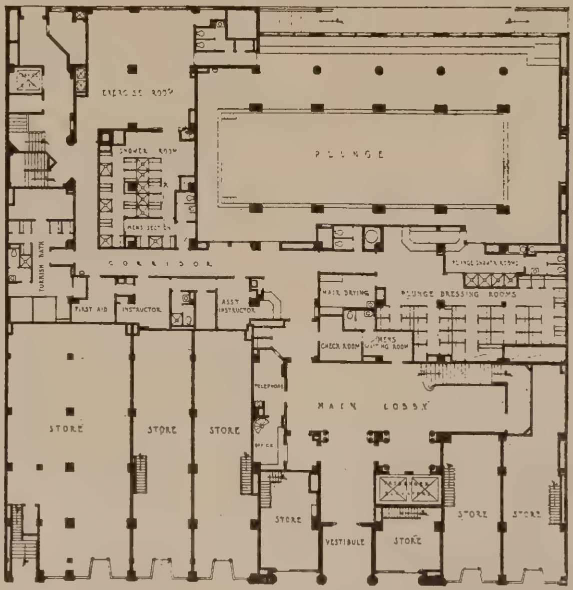
Plans on Back

Photos. Margaret Craig

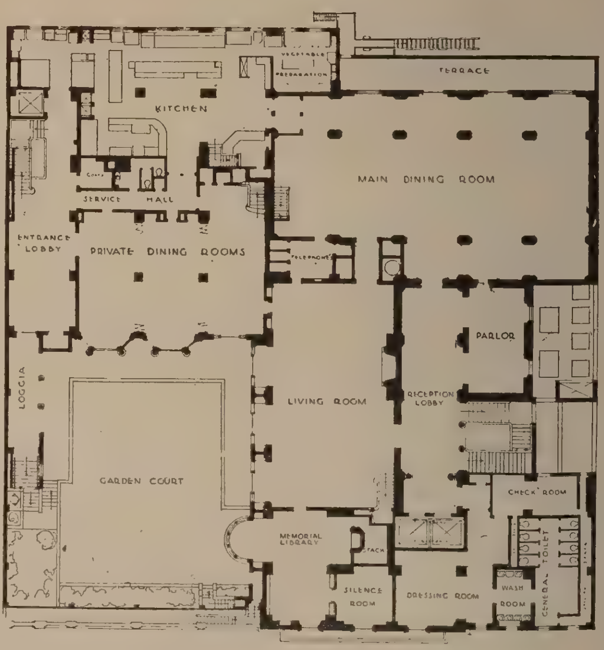
WOMEN'S ATHLETIC CLUB, LOS ANGELES
ALLISON & ALLISON, ARCHITECTS


CORRIDOR
STORAGE
TERRACE AT SECOND MEZZANINE FLOOR
GARDEN AT SECOND FLOOR
PLANTING
NORTH COURT
STAIR HALL
PASSENGER ELEVATORS
ROOF
LOGGIA

A TYPICAL UPPER FLOOR


EXERCISE ROOM
PLUNGE
SHOWER ROOM
CORRIDOR
TURKISH BATH
FIRST AID
INSTRUCTOR
ASST INSTRUCTOR
HAIR DRYING
PLUNGE DRESSING ROOMS
CHECK ROOM
MENS WAITING ROOM
TELEPHONE
MAIN LOBBY
STORE
STORE
STORE
STORE
VESTIBULE
STORE
STORE
STORE

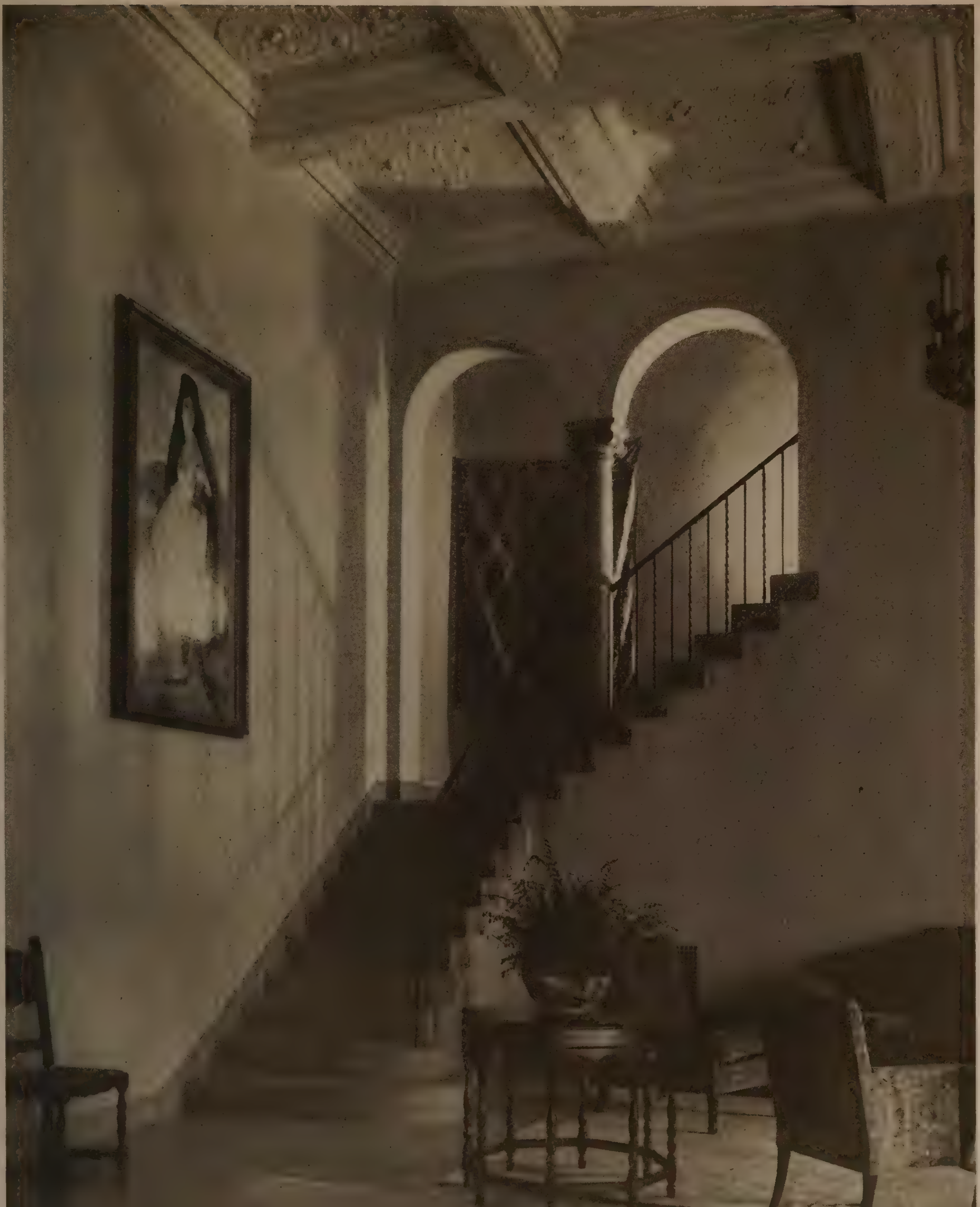
FIRST FLOOR


TERRACE
VEGETABLE
PREPARATION
KITCHEN
SERVICE HALL
ENTRANCE LOBBY
PRIVATE DINING ROOMS
MAIN DINING ROOM
TELEPHONE
PARLOR
LOGGIA
LIVING ROOM
RECEPTION LOBBY
GARDEN COURT
CHECK ROOM
MEMORIAL LIBRARY
STACK
SILENCE ROOM
DRESSING ROOM
WASH ROOM
GENERAL TOILET

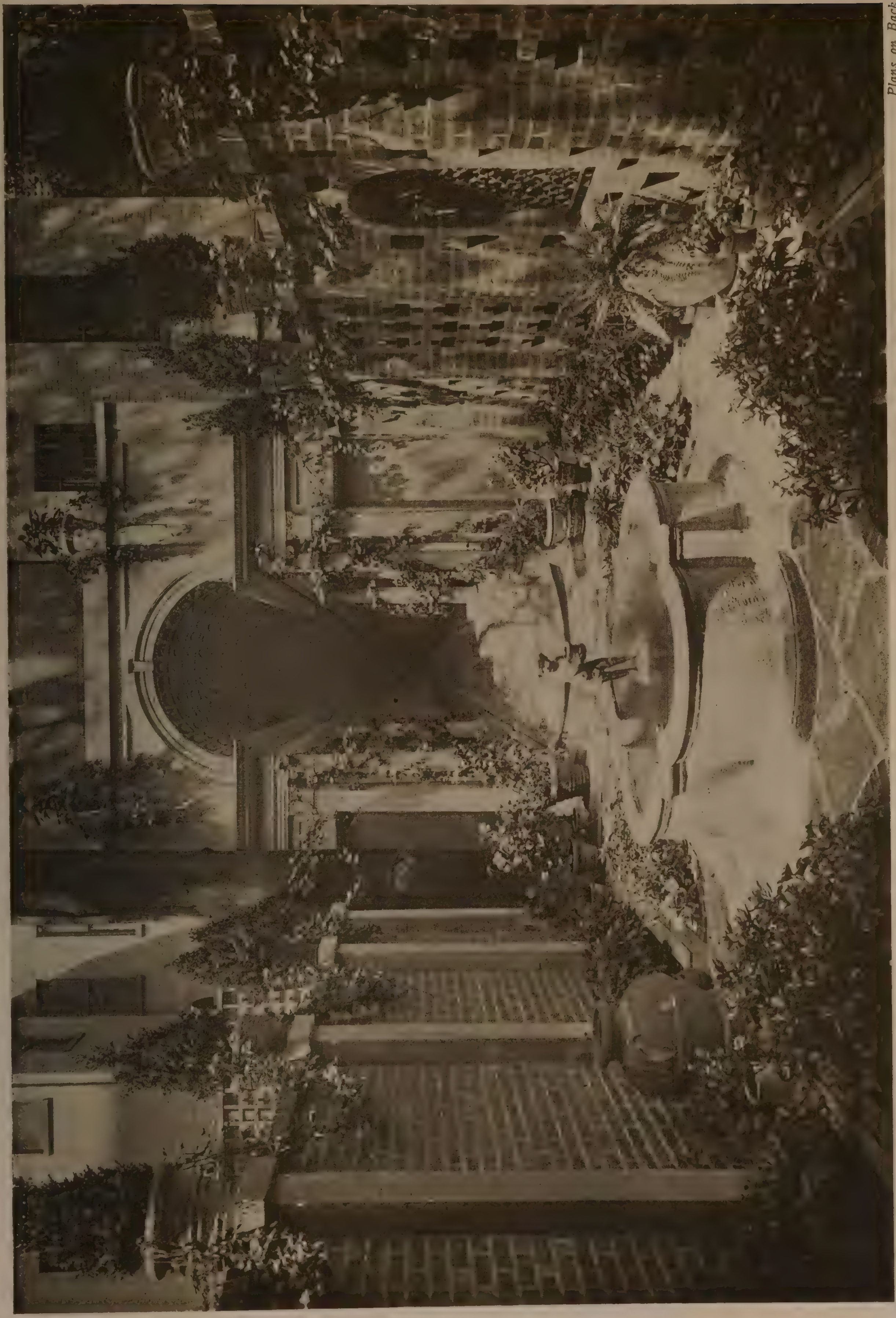
SECOND FLOOR

PLANS, WOMEN'S ATHLETIC CLUB, LOS ANGELES

ALLISON & ALLISON, ARCHITECTS



CORNER OF LIVING ROOM
WOMEN'S ATHLETIC CLUB, LOS ANGELES
ALLISON & ALLISON, ARCHITECTS



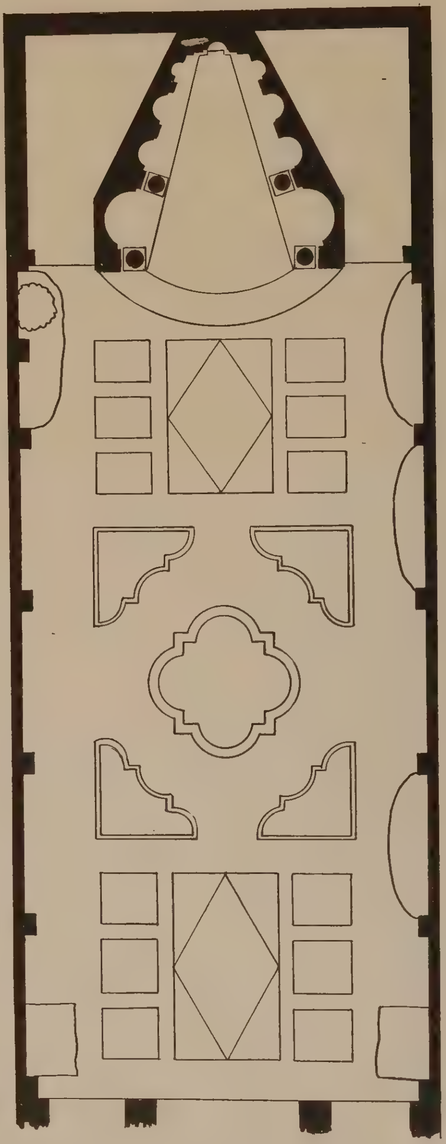
Photos. S. H. Gottscho

Plans on Back

THE GARDEN

HOUSE OF BENJAMIN WOOD, ESQ., NEW YORK

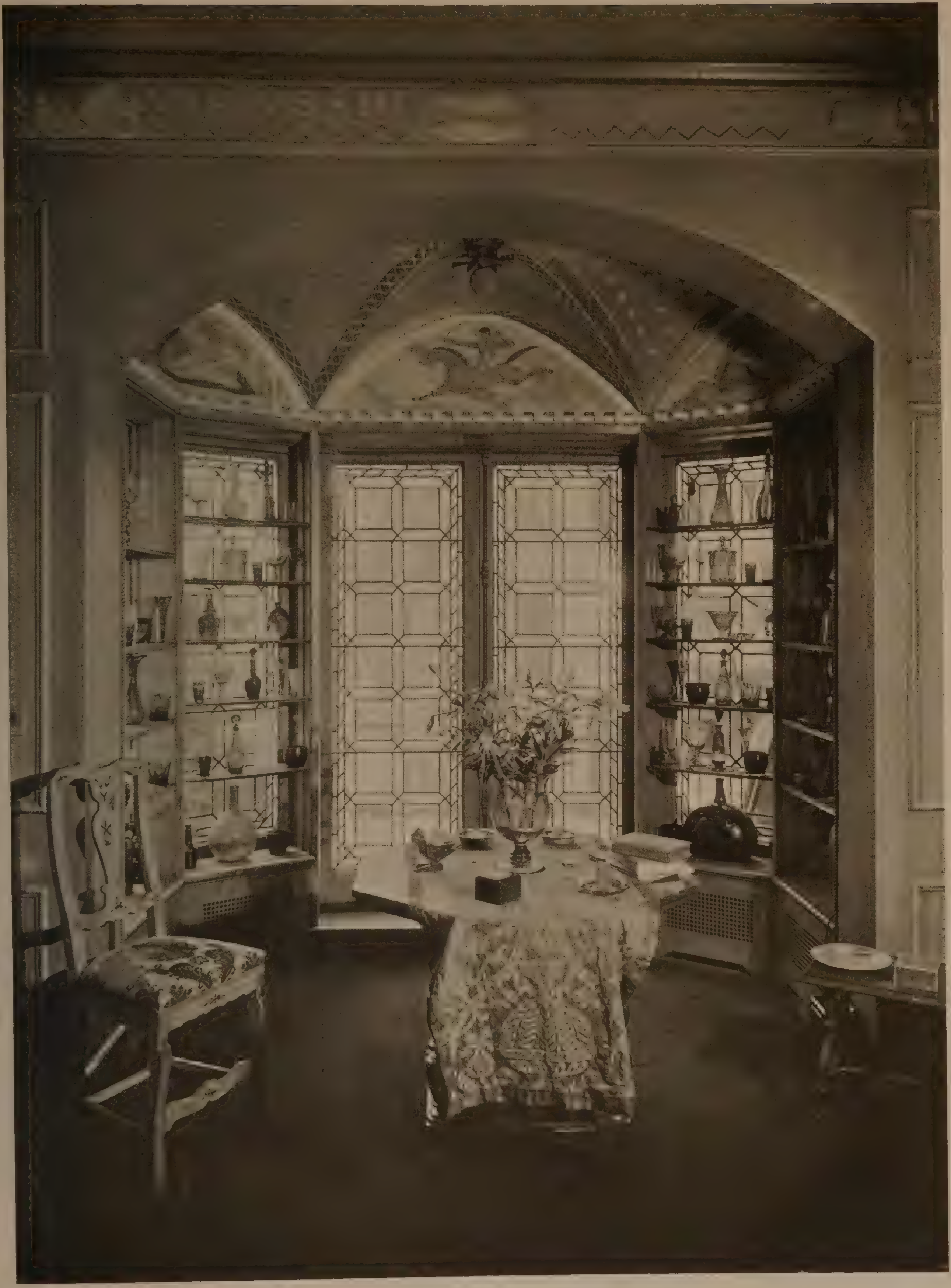
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT



GARDEN PLOT PLAN

HOUSE OF BENJAMIN WOOD, ESQ., NEW YORK

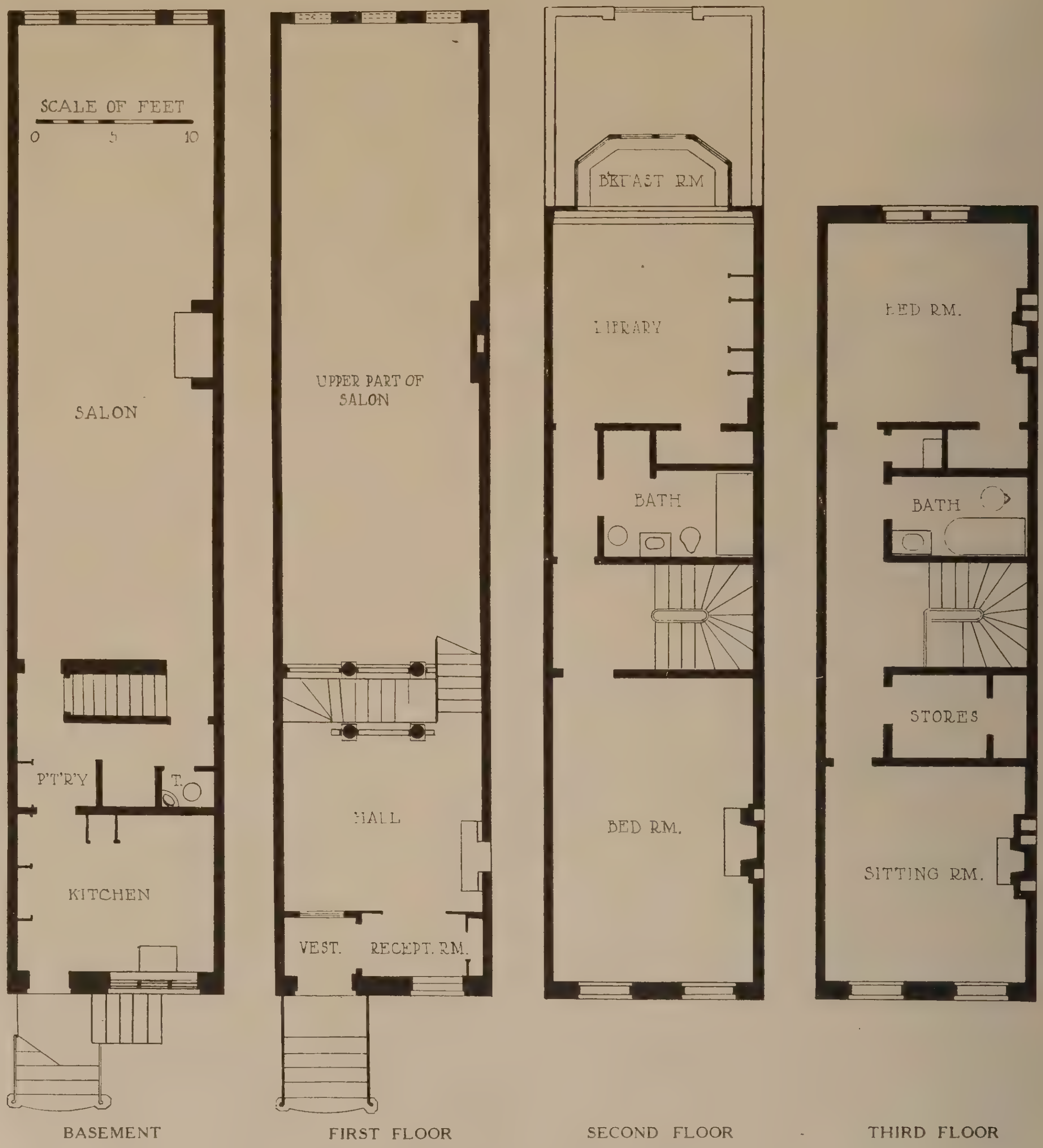
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT



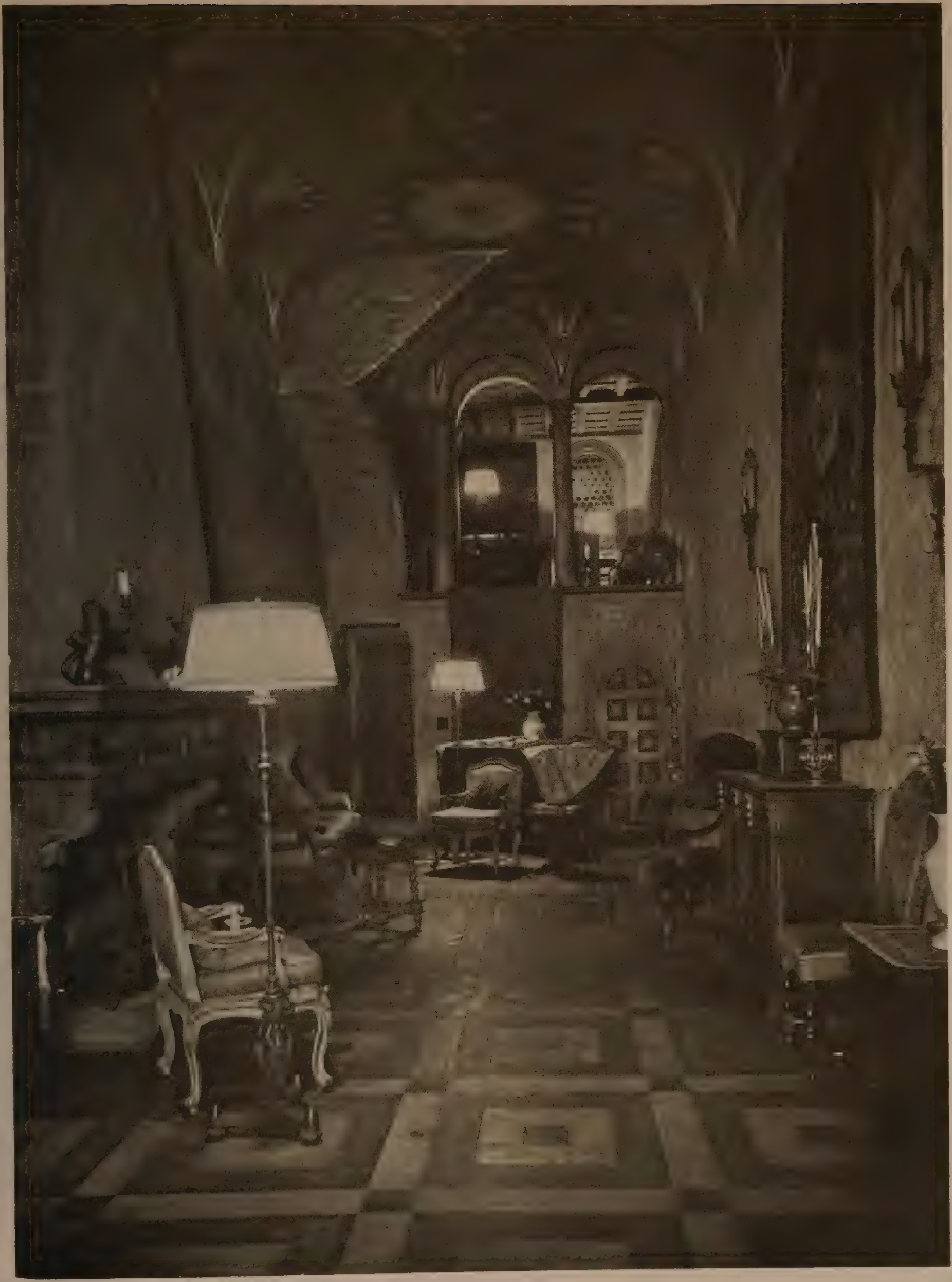
ONE END OF BREAKFAST ROOM

HOUSE OF BENJAMIN WOOD, ESQ., NEW YORK

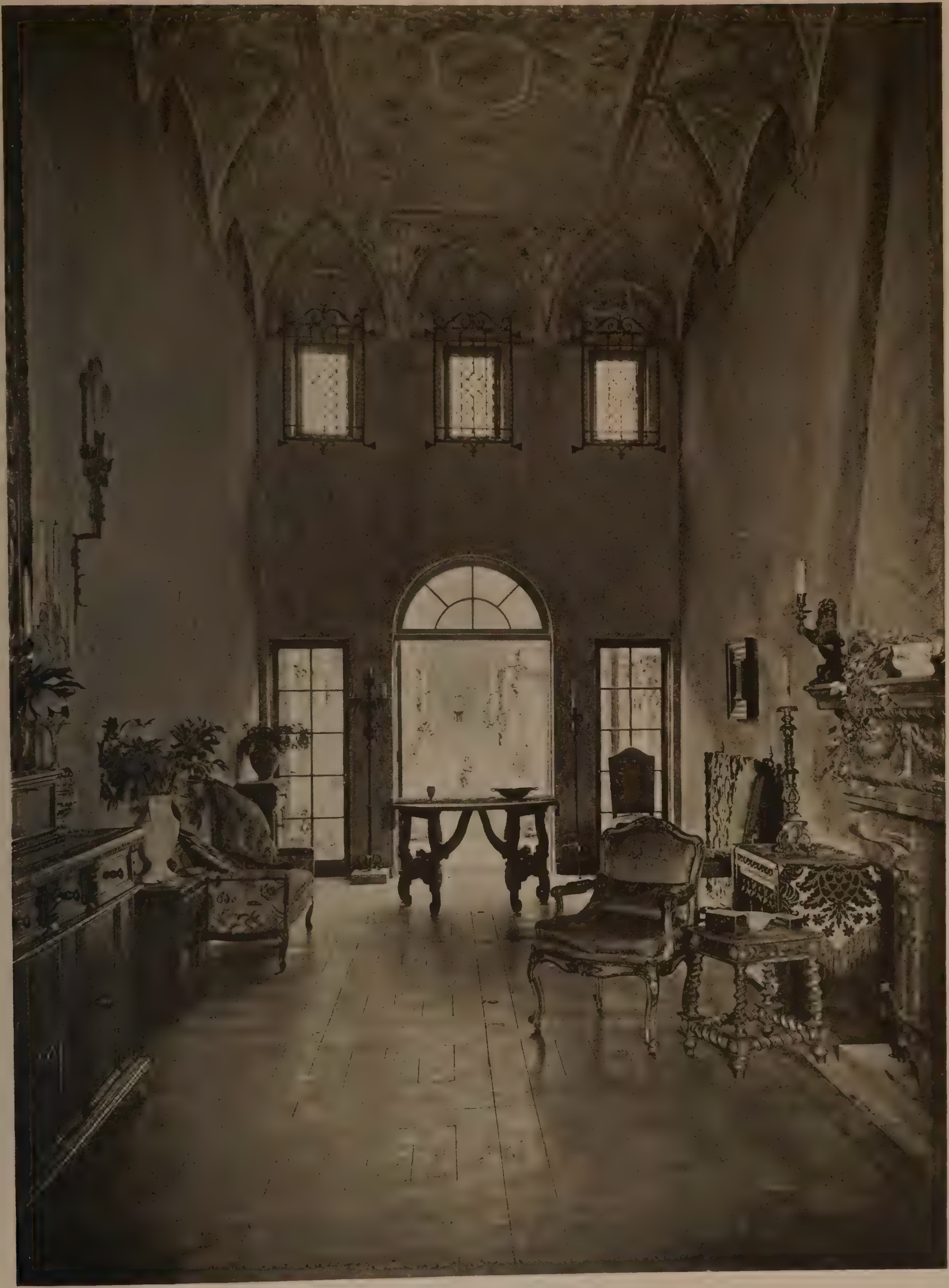
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT


SCALE OF FEET
0
5
10
SALON
P'T'R'Y
T.
KITCHEN
BASEMENT
UPPER PART OF SALON
HALL
VEST.
RECEPT. RM.
FIRST FLOOR
BR'F'AST RM.
LIBRARY
BATH
BED RM.
SECOND FLOOR
BED RM.
BATH
STORES
SITTING RM.
THIRD FLOOR

PLANS, HOUSE OF BENJAMIN WOOD, ESQ., NEW YORK
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT



SALON, HOUSE OF BENJAMIN WOOD, ESQ.
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT



SALON, HOUSE OF BENJAMIN WOOD, ESQ.
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT

The City House of Benjamin Wood, Esq.

WILLIAM LAWRENCE BOTTOMLEY, **Architect**

ARCHITECTURAL opportunity is not always to be measured by magnitude, and one architect may design a simple doorway that is a thing of enduring beauty while another makes a botch of a state capitol. Of the reality of this thought, one is vividly and circumstantially impressed by the architectural ingenuity, imagination and taste revealed in William Lawrence Bottomley's remodeling of a narrow city house on 52nd Street, not far from Park Avenue, in New York for Mr. Benjamin Wood.

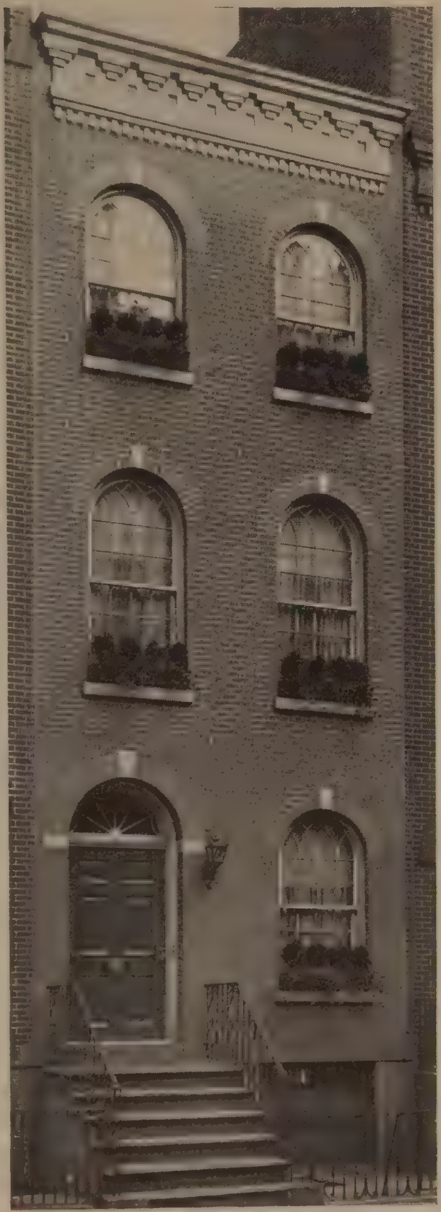
Perhaps architect and owner shared some whimsical regard for the surprises that delight the mind in childhood tales of magic; at any rate, the exterior of the house was left in its original form, expressing or suggesting nothing of what might exist behind its reticent and modest front. The visitor, mounting a few steps, finds himself in a small vestibule, with an arched window of leaded roundels where ordinarily doors would be, and the door itself, also with leaded roundels, at his right. Once within the door, the house begins to declare its triumph of architectural design over literal dimensions. An old Italian grille of wrought iron, with gates, admits to a small foyer which occupies the whole 20-foot width of the house. Through the central arch of a graceful double arcade of three, there is a vista down into the lofty living room beneath. Through the right arch the stairs lead upward, and through that at the left, stairs lead, at right angles with the others, down to the living room floor.

Words could hardly be arranged to convey an exact idea of the sheer ingenuity of design exerted at this point in the house plan, nor would they accurately suggest the extraordinary scale given the living room. The illustrations show the charm and effectiveness of the vistas seen both ways,—looking down into the living room, through the double arcade, and looking back and up from the living room through the same arcade.

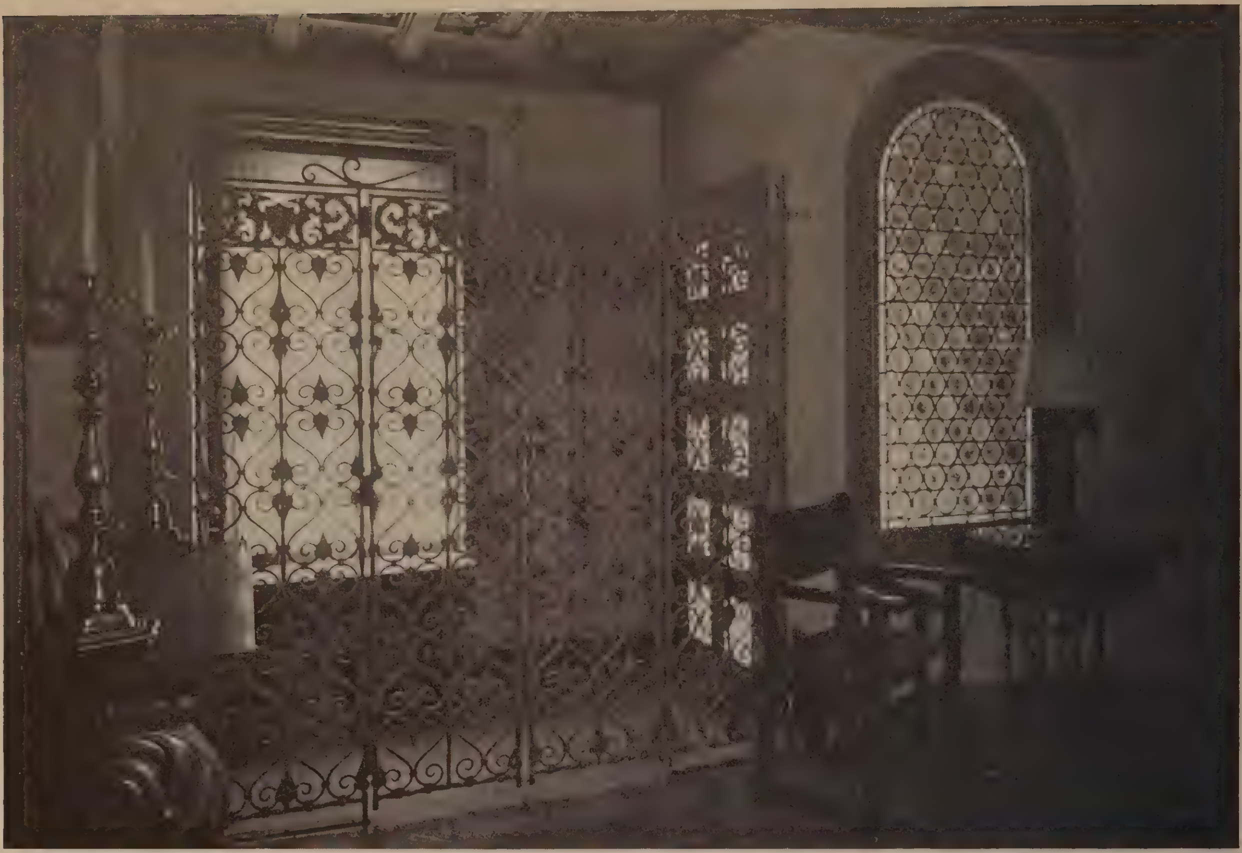
The living room has all the appearance of a great hall in an Italian villa; its color has been kept in an admirably subdued key; there are no errors in scale, and there are no illusions to make its dimensions appear greater than they really are. There is well controlled color in the ceiling, which springs on vaults from corbeled pilaster caps, and the mantel is thoroughly a part of the picture. A paneled door beneath the stairs that lead down into the living room gives access to service quarters as admirably compact and efficient as are those on a yacht,—service quarters, indeed, reduced to a minimum in area, yet lacking nothing in completeness, carefully and economically planned.

Looking toward the garden, a tall, arched opening with French doors is flanked by single windows in a simple Palladian composition, and high above them, incorporated in the ceiling vault, are three small windows of leaded amber roundels given further decorative effect by wrought metal grilles over the openings.

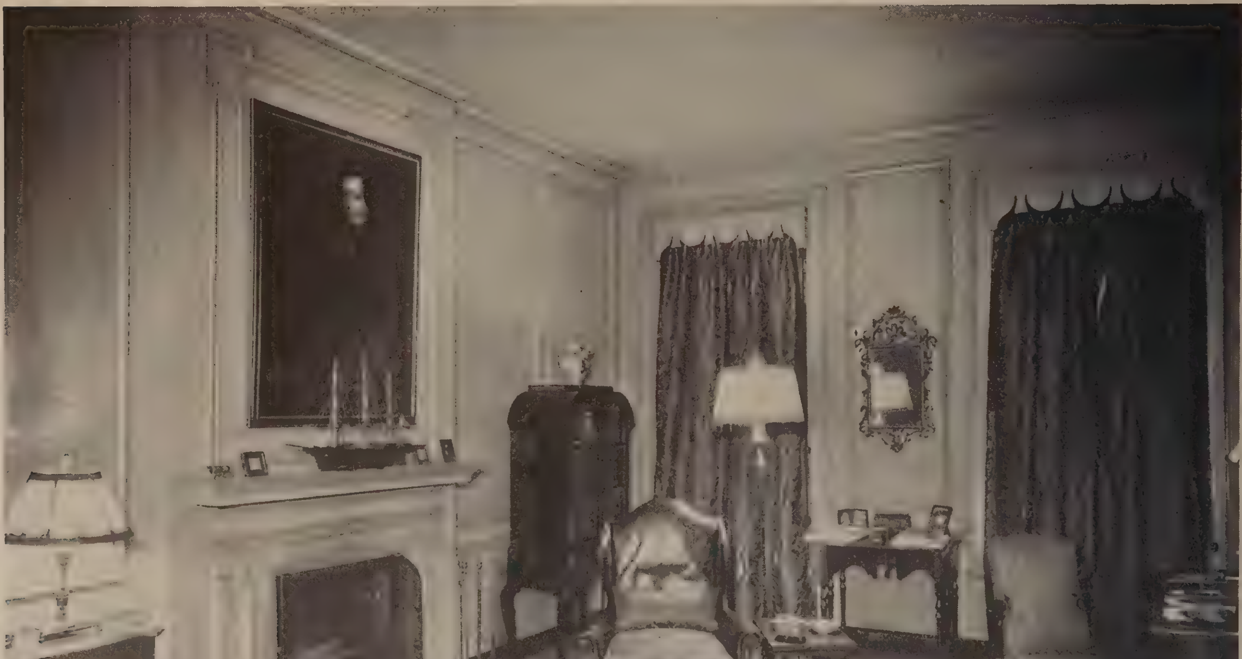
A glimpse through the central opening discloses a miniature formal garden, with flagged walks, brick-bordered flower beds and a lead fountain figure presiding over a basin of gold fish. But it is the back wall of this garden that seems to turn the pages of later-day architectural design back to the day of those resourceful architects of Renaissance Italy—of the designers who knew their architecture so well that they could play with it now and then. Looking at this back wall at close range there is the appearance of a long, barrel-vaulted corridor, running back perhaps 100 feet. It is there, seemingly in tangible, three-dimensional form, but its actual depth is not more than 6 feet. Mr. Bottomley has created an illusory perspective in three dimensions, skillfully counting the capitals of the columns, skillfully diminishing them in size, and skillfully inclining the lines of base and entablature at precisely the pitch to baffle optical detection of his artifice. Recourse to the camera in this instance seems only to heighten the illusion; and facing the actual thing, one undergoes the



Street Facade



ENTRANCE HALL AND GATES

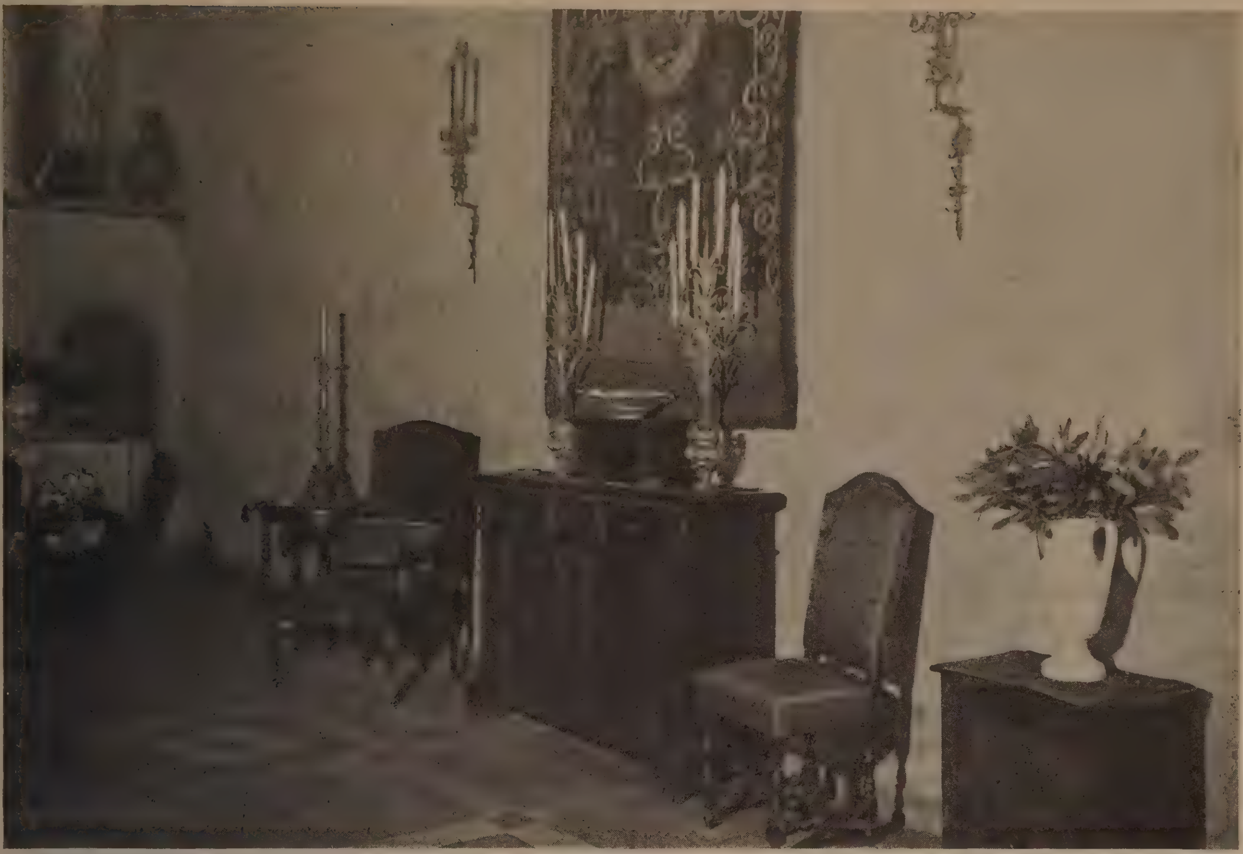


Photos. S. H. Gottscho

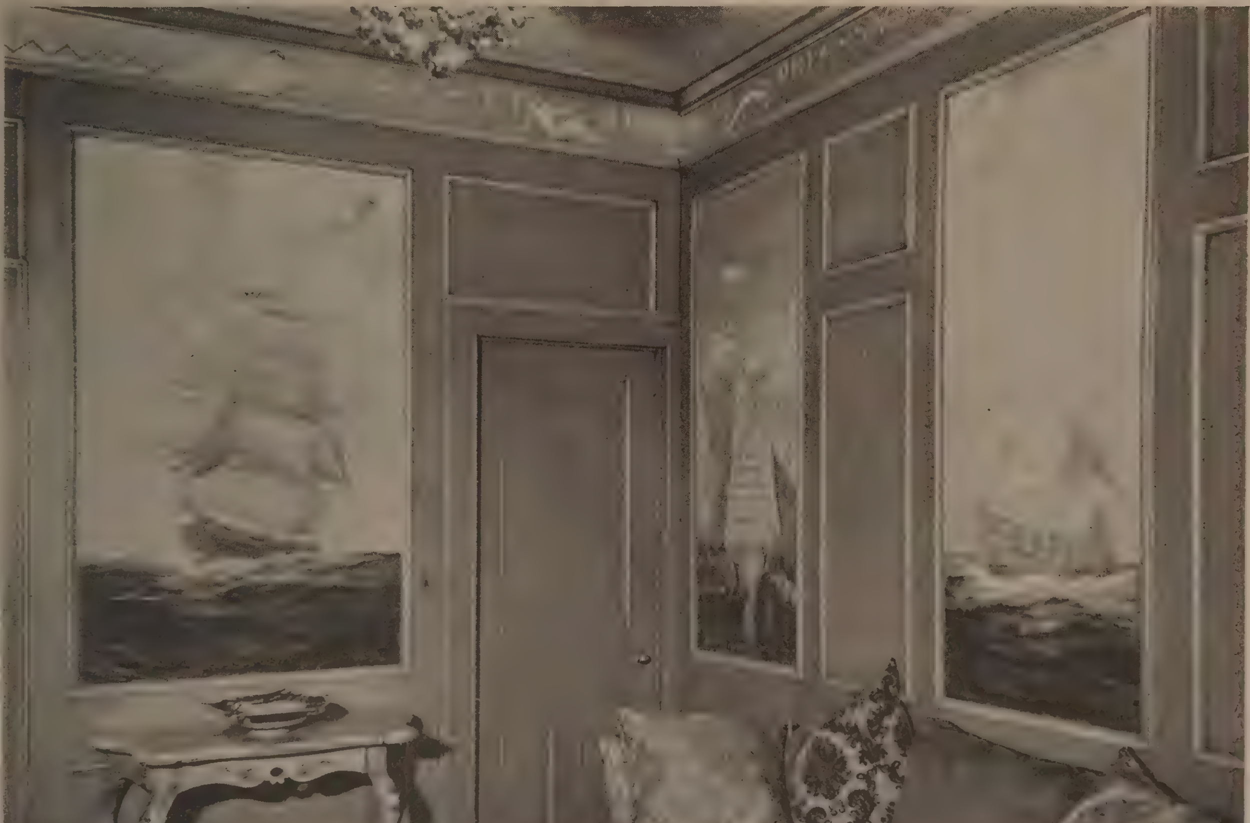
CORNER OF BEDROOM

HOUSE OF BENJAMIN WOOD, ESQ.

WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT



THE SALON



BREAKFAST ROOM

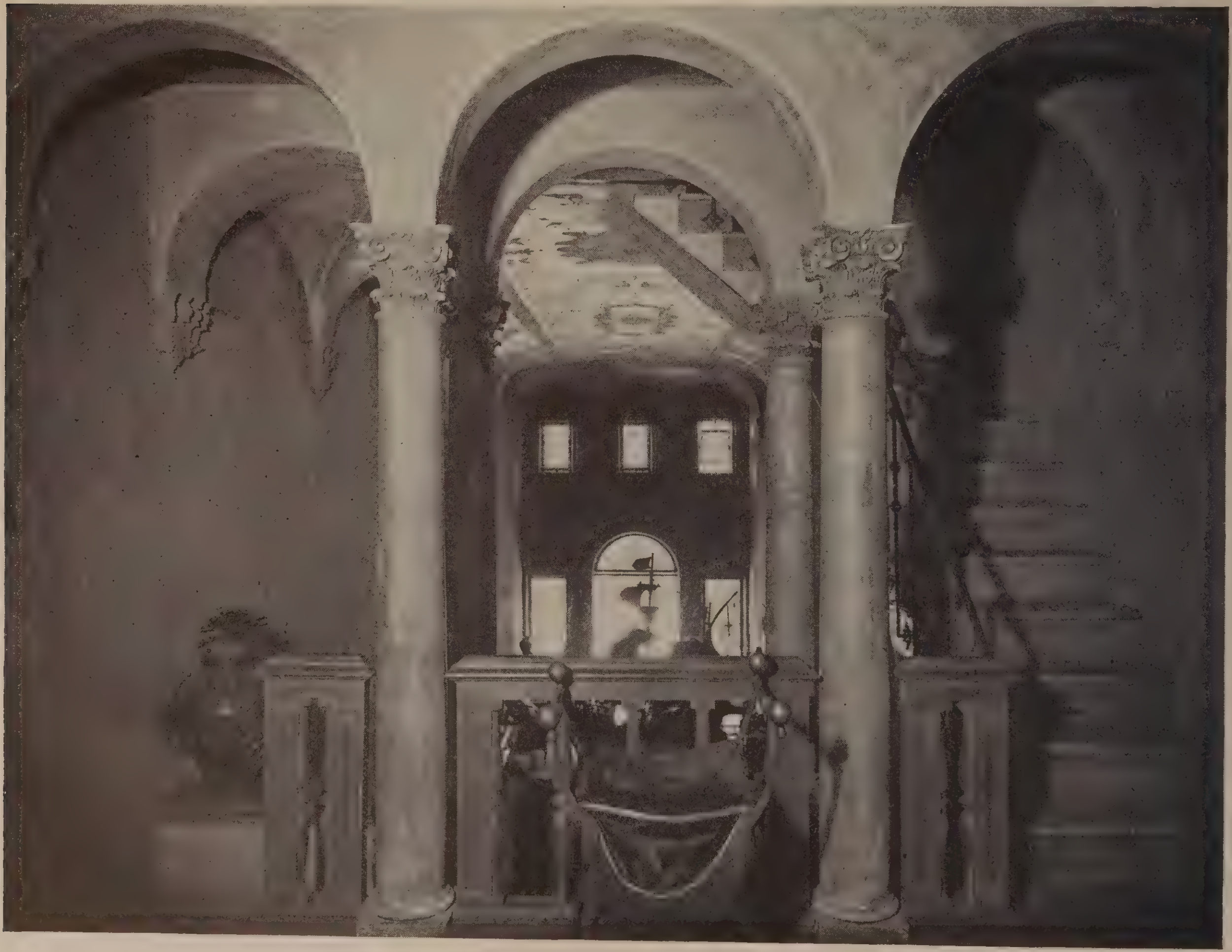
HOUSE OF BENJAMIN WOOD, ESQ.

WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT

paradoxical experience of plainly seeing something and at the same time confirming with the same sight the fact that the thing one is looking at does not exist. Endeavoring always to draw conclusions from architecture, this happy and graceful artifice of Mr. Bottomley's leaves one with the thought that perhaps architecture since the heyday of the Renaissance has become too serious and conventional, and that a fear of being accused of doing "stunts" has stayed the hand of many an architect from doing things through the medium of sheer design that would create and stimulate a new interest and joy in architecture among the countless multitudes of people who think that architecture (when they think of it at all) is the dullest and least appealing of all the arts. Why not more bits of design like this brilliant illusion of a long vista? Theatrical? What of it, and why not? Was not a very large part of the work of the architectural genius of Renaissance Italy essentially theatrical? Losing the spirit that dared design and execute such a bit as this interesting vista, architecture has been left with nothing but a collection of forms once used by men who knew how to use them with the brilliant imagination necessary.

Returning to the house, two rooms on the second floor deserve special attention. One of these is the owner's bedroom, which is exactly what such a room should be,—a quiet, restful room, furnished with a rare perfection of taste. Across the stair hall is a sitting room, done in dull green, its panels framing a set of admirably painted ship pictures by F. Leo Hunter, beneath a zodiac frieze of silver and delicate colors by Barry Faulkner, who also decorated the ceiling and lunettes in the bay window. Here an array of colorful old glassware adds effective incident. Behind concealed doors, closets with sliding traps afford a surprising amount of storage space, and paneled doors open to disclose a charmingly appointed dressing table for the use of the dinner guest.

Not a few considerations impress themselves upon the mind in examining this very unusual house. One of these is a realization of the power of design to overcome dimensional limitations; another is a fresh revelation of the potency of imagination, coupled with measured skill, in creating illusions which almost become realities; still another is the rediscovery, in the device of the garden vista, of a part of Renaissance genius, supposedly lost. And above all, one cannot but feel that here is a house that resulted from perfect accord between architect and owner,—from a likeness in matters of taste, and from an unreserved sharing of the vision without which no such charming, unusual and distinguished architectural accomplishment would have been in any way possible.



Salon, from Mezzanine Entrance Hall

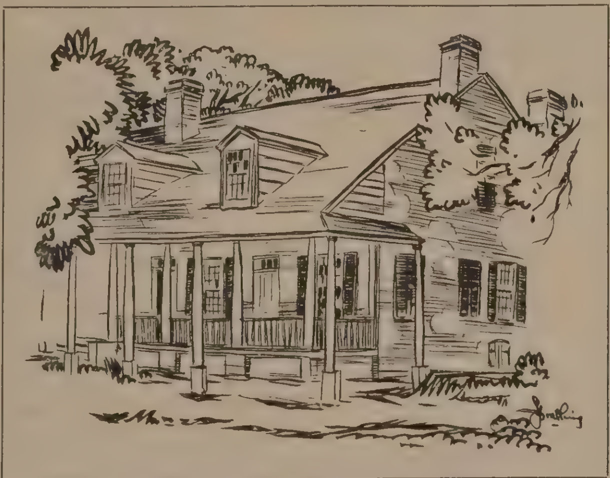
Old Plantation Architecture in Louisiana

PART II. THE RESULT OF FRENCH AND ENGLISH INFLUENCE

Text and Sketches by WILLIAM P. SPRATLING, *Professor of Architecture, Tulane University*

FEW people know of the "Florida Parishes" of Louisiana and their unique history. Technically, the Florida Parishes were those included in the strip of territory along the Gulf which belonged to Spain at the time Florida was under Spanish dominion and which also included parts of Alabama and Mississippi. They stretched from what is now the Mississippi state line, at its southwesternmost corner, westward to the Mississippi River. They were formed, then, of the Louisiana parishes which extend northward from Lake Pontchartrain and westward to the river, and included St. Tammany, Tangipahoa, Livingston, East and West Feliciana, and several others. At the time of the Louisiana Purchase, which took place only three years after the territory had been ceded back to France by Spain, there was serious misunderstanding as to the status of these parishes. There is said to have been a determined movement among the inhabitants for complete independence, and that they even went so far as to commission an ambassador to Washington. These are simple facts, and it requires no great stretch of the imagination to evoke the stirring scenes that must have taken place in those exciting days. How significant of the diversity of material that has gone into the making of the traditions of this country—traditions from so many different sources!

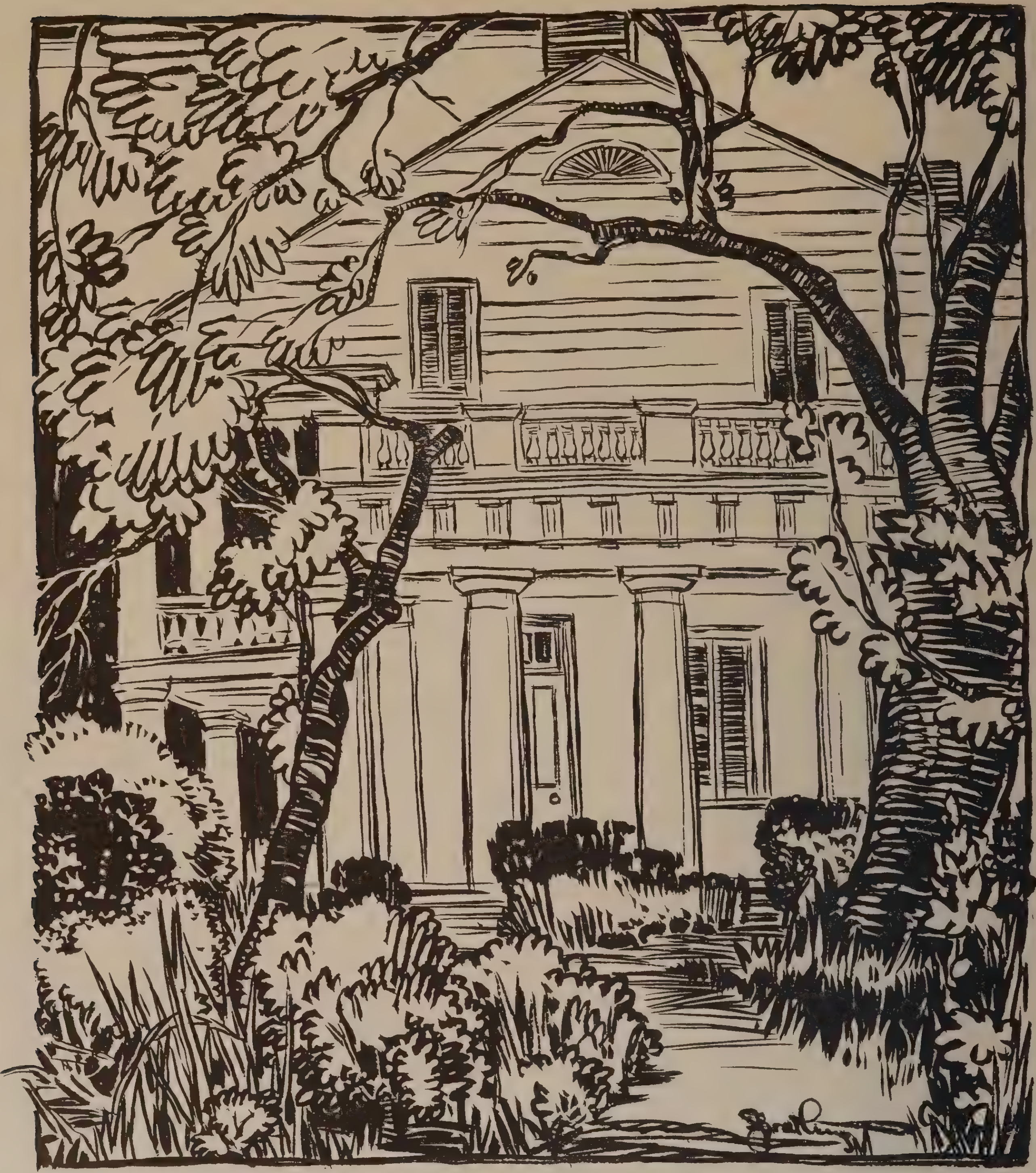
The Florida Parishes, and the Felicianas in particular, formed the sphere, architecturally, of some amount of Georgian influence. This purely English tradition, as has been noted in the first of these articles, was the result of direct immigration by settlers from the Carolinas. "Waverly" represented probably the earliest and most complete use of the Georgian in Louisiana. Built in 1807 by an Englishman, and in somewhat modest proportions, it still reflects a certain provincialism and closeness to the soil notwithstanding an absolute detachedness from previous Louisiana tradition and in spite of an abundance of sophistication and refinement as exhibited in the classic and Adam-like elaboration of mouldings. "Waverly" is located about five miles above St. Francisville, that charming little town which is perched on high bluffs on the east bank of the Mississippi. A strange contrast is observed between the English "Waverly" on one side of the river and "Parlange Plantation" on the other, where we find the French and Spanish spirit in colonial work given the simplest and most characteristic expression.



"Oak Grove," Near St. Francisville

The most peculiar thing to be noted in regard to most of these old houses is that their effectiveness is achieved not by means of an accumulation of architectural fact or detail but in the subtlest and at the same time the most natural way. This simple formula we find clearly and honestly expressed in "Parlange," built in 1815. It is to be rather regretted that this "native" quality is not consistently present throughout this region, and that it becomes apparently somewhat lost sight of during the period just preceding the Civil War. This is the chief criticism to be lodged against "Burnside," a comparatively late example. "Burnside," located about halfway between New Orleans and Baton Rouge, possesses beauty and even some degree of magnificence. The grounds and the house itself are remarkably well kept, and the approach to the building is most effective. In type "Burnside" should probably be classified as distinctively Louisiana only as regards generousness of proportions in planning, the use of French windows, and in minor details, not omitting the two delightful *garconnieres* placed symmetrically on either side of the house. Its crowning characteristic details,—the cornice, the dormers and the lantern and of course the "whale walk,"—are all strongly reminiscent of New England. Taken as an example of the old Louisiana plantation, "Burnside" must be considered as rather unique, and this in spite of the wealth of tradition of which it is possessed, accumulated by generations.

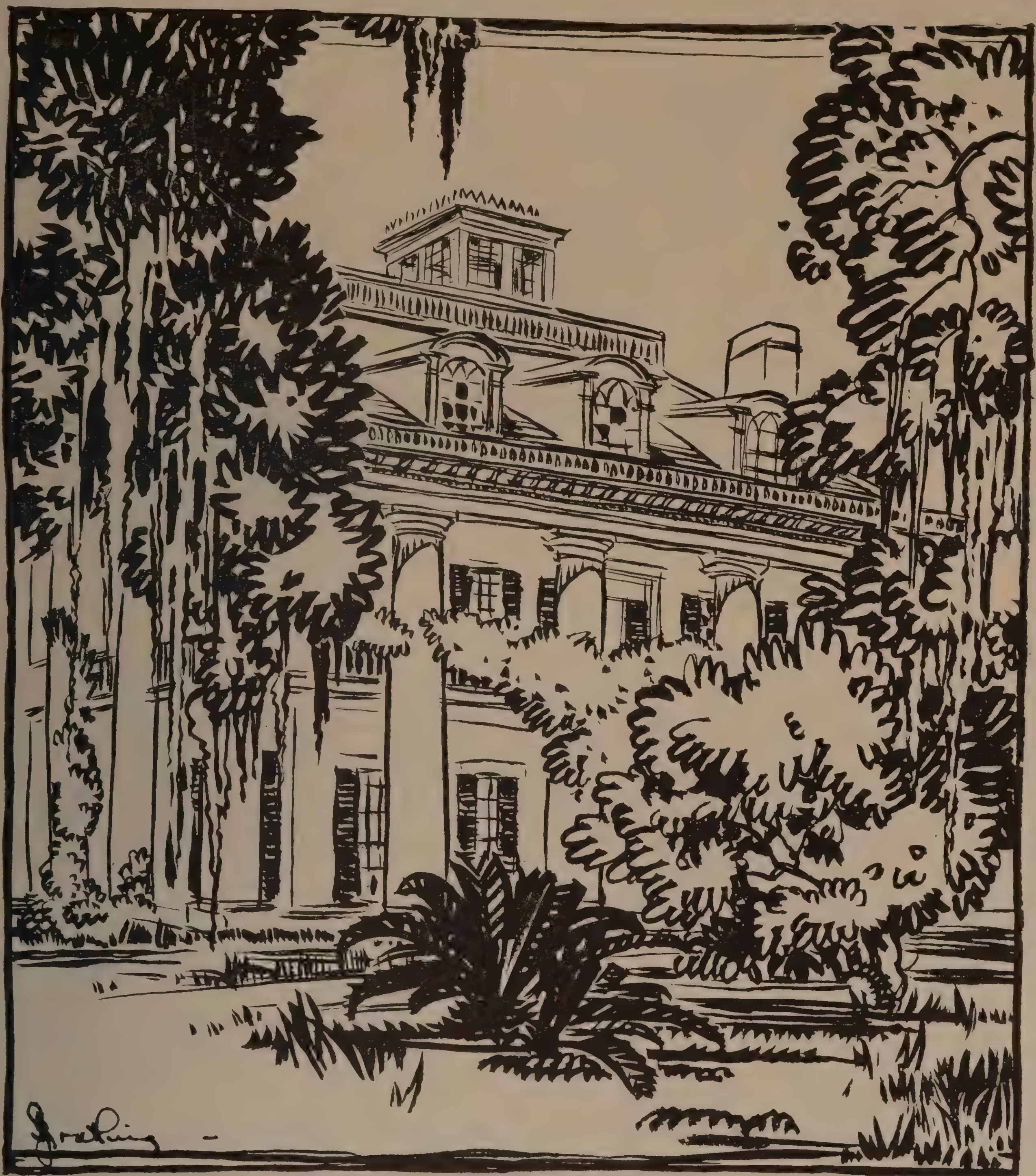
Another house which is also unique in point of design is on the estate called "Asphodel." Here, however, we have a house which is more perfectly indigenous to Louisiana. It is a building of rare charm, and was one of the most gratifying discoveries in our ramblings in search of material. Located vaguely some 38 or 40 miles above Baton Rouge and near St. Francisville, it is approached through a particularly wild stretch of virgin forest, and the road as it now exists winds up at the rear. The effect obtained on that side is of a tremendously broad reach of veranda with typical slender swelling colonnettes supporting the wide expanse of leisurely sloping roof. The front presents a sharp contrast. Here the main body of the house emerges daintily in the center, and a second



"Rosedown," Near St. Francisville

story appears as evidenced in the two graceful pedimented dormers and the gable windows. The wings, with their little two-columned porticoes and classic pediments, give one the same feeling of quaintness as do some of the old Virginia manor houses. There is a remarkable purity as well as charm about it.

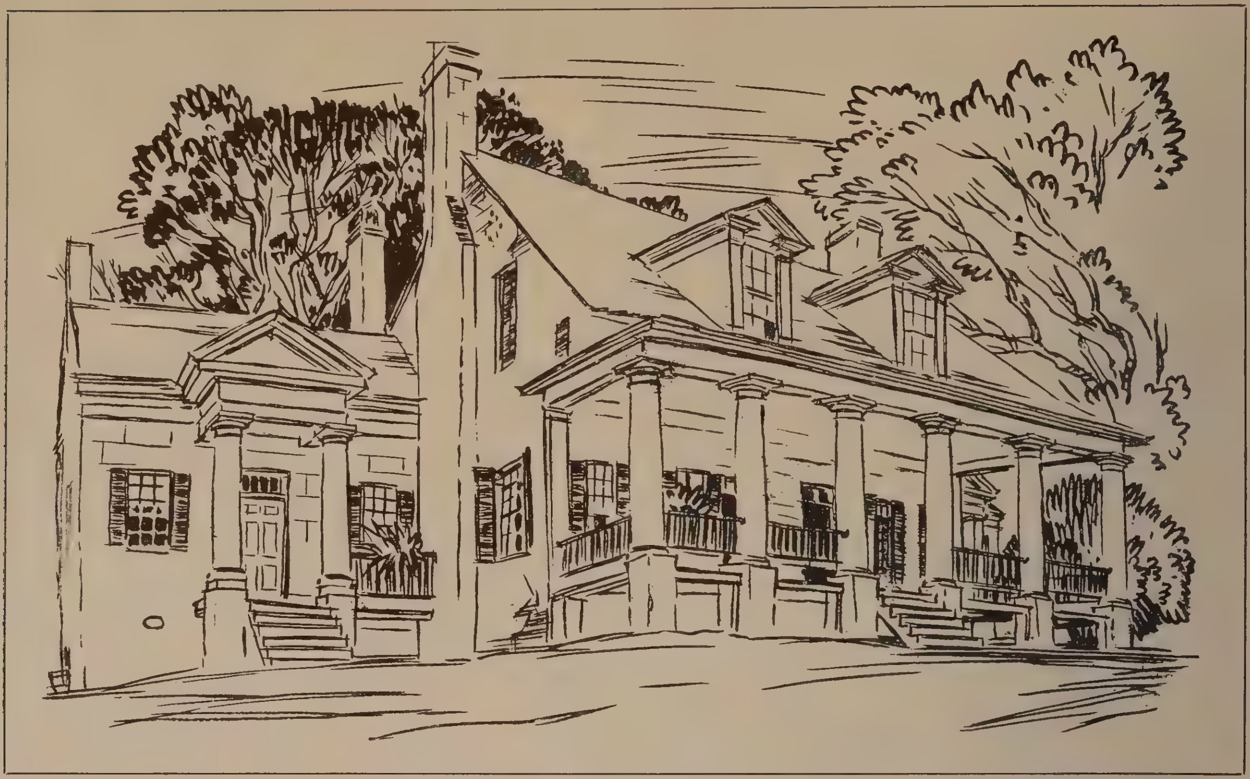
In the vicinity of St. Francisville are to be found several other examples of importance. Notable among them are "Rosedown" and "Oak Grove." The latter is a charmingly unpretentious house in which both French and English influence may be traced. Its most remarkable feature,—and a very clever one,—is the treatment of the porch with its secluded and railed porch proper and beneath it a bricked terrace, the two marked each with its own row of colonnettes. These colonnettes, the inner row slender and the outer more sturdy, are very graceful and pleasing in their manner of clustering and in the contrast of their round whiteness with the tone of the old brickwork. The setting of this quietly informal and home-



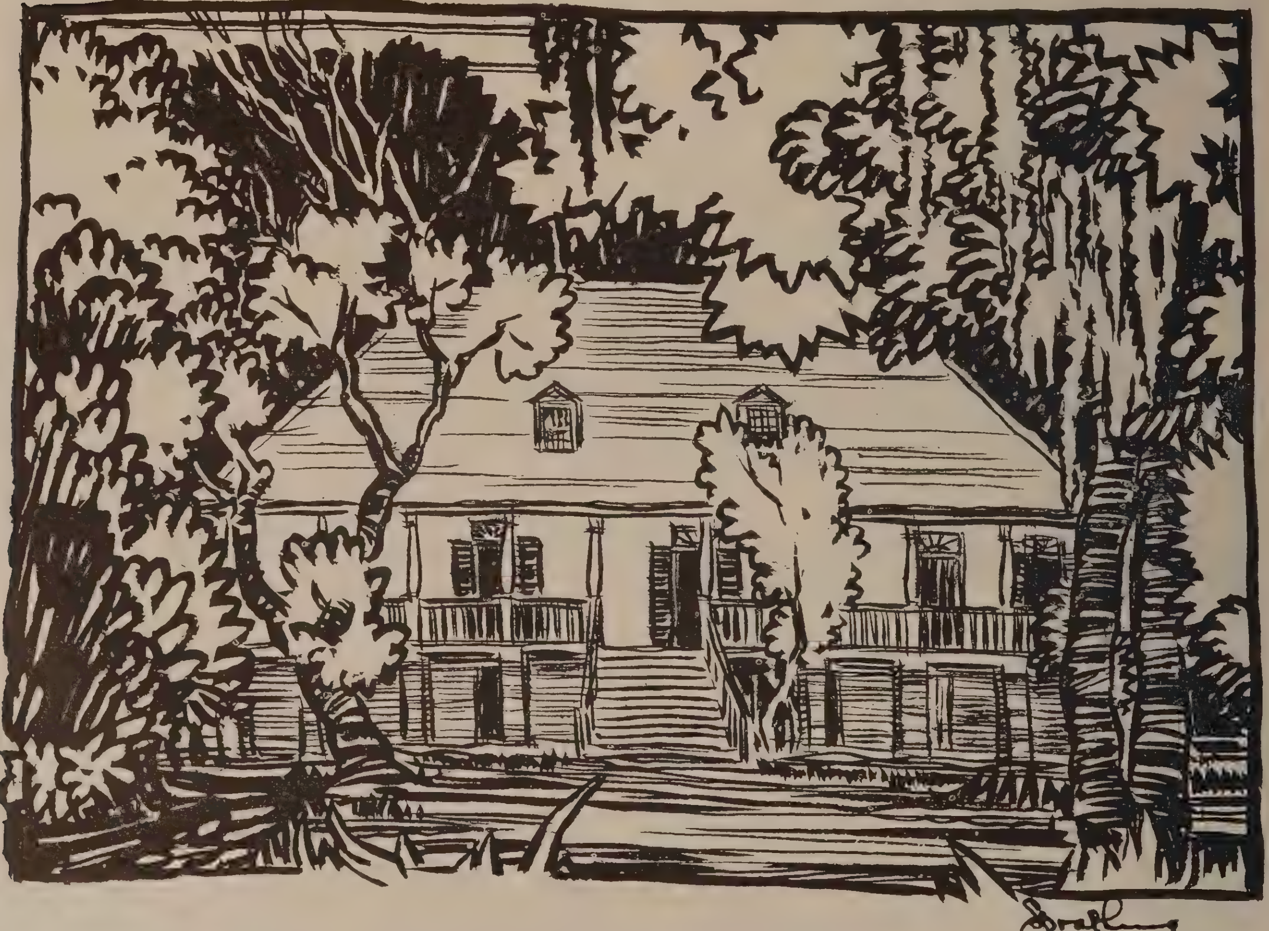
"Burnside," Near Darrow

like building is felicitous, to say the least. The gently swelling knoll on which the structure is placed is graced on either side with an octagonal brick dovecote. These little buildings are very French in character, with the wooden upper stories and the corner pilasters adding a very distinctive touch to the ensemble. The actual approach to the building is through a long lane which is banked on either side with a luxuriant avenue of well grown mock orange.

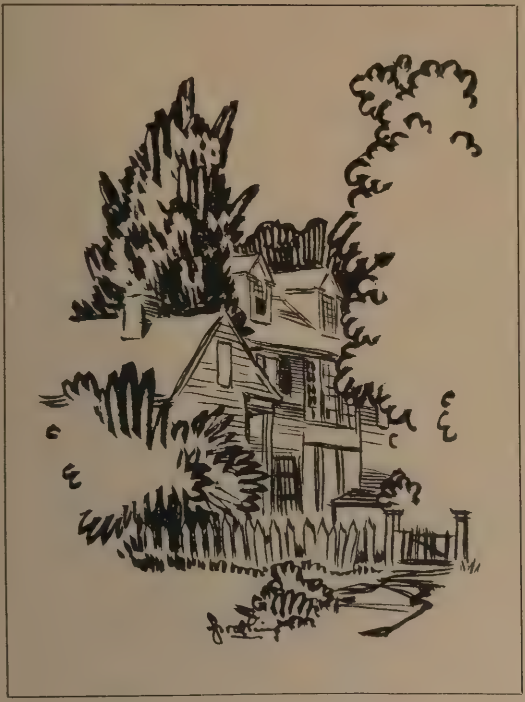
"Rosedown" is almost as romantic and beautiful as its name. Architecturally there are, of course, characteristics which may not always be found pleasing. In the main body of the house one feels a certain severity and lack of grace. This results undoubtedly from the use for the portico of a superimposed Greek Doric order with no delicacy of detail in the cornice or even in the balustrade to relieve its hardness. The columns themselves have been hewn from solid timber and are well in character. In the wings, which come down to single-story heights, we



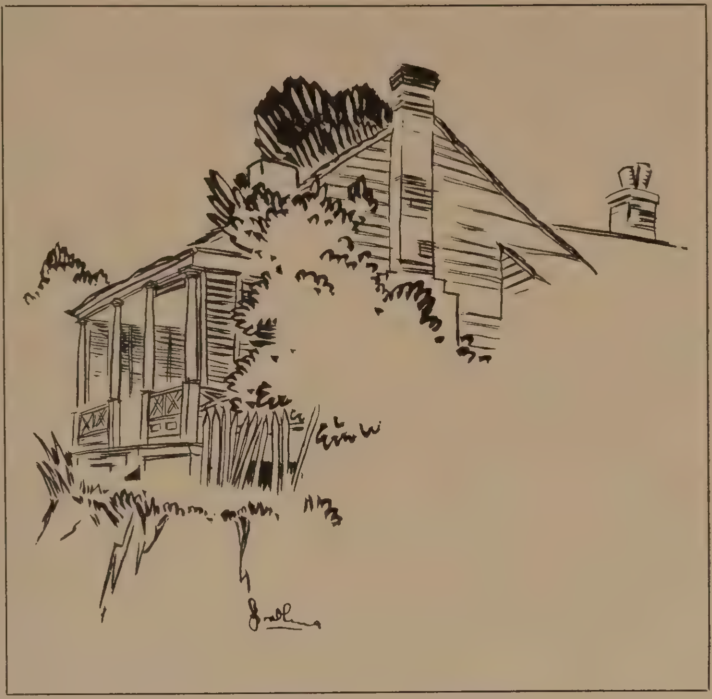
"ASPHODEL," NEAR ST. FRANCISVILLE



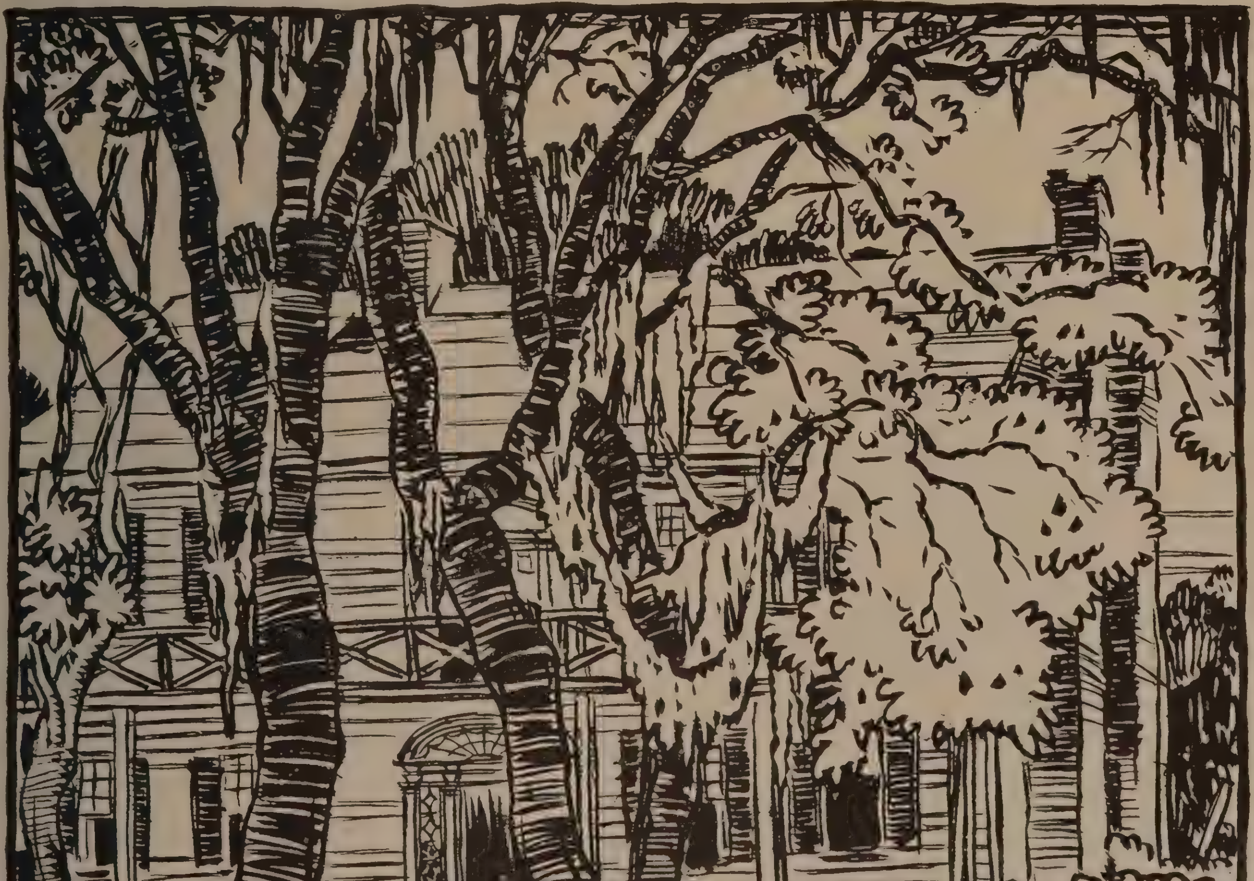
"PARLANGE," POINTE COUPEE PARISH



ONE VIEW OF "WELHAM"



"OAKLEY," ST. FRANCISVILLE

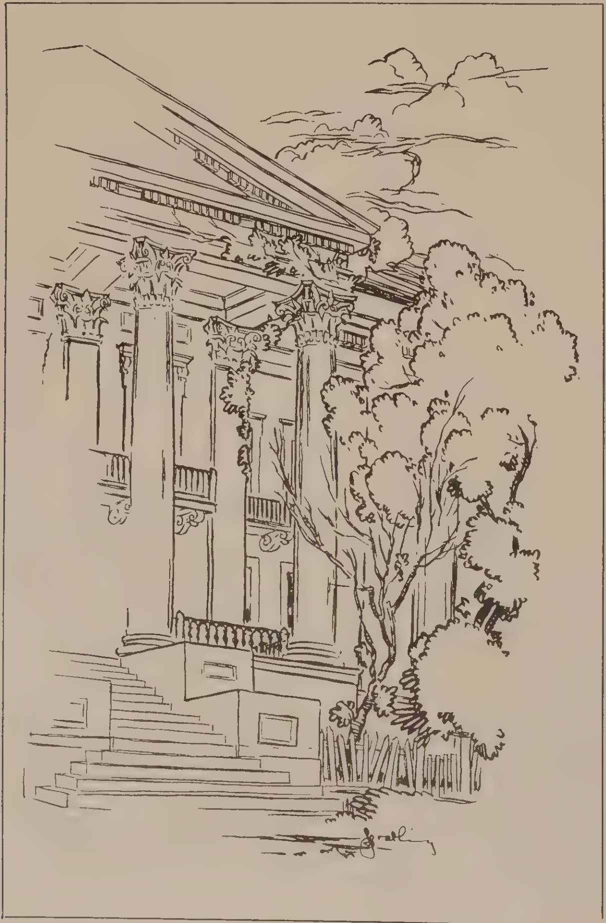


"WAVERLY," ST. FRANCISVILLE

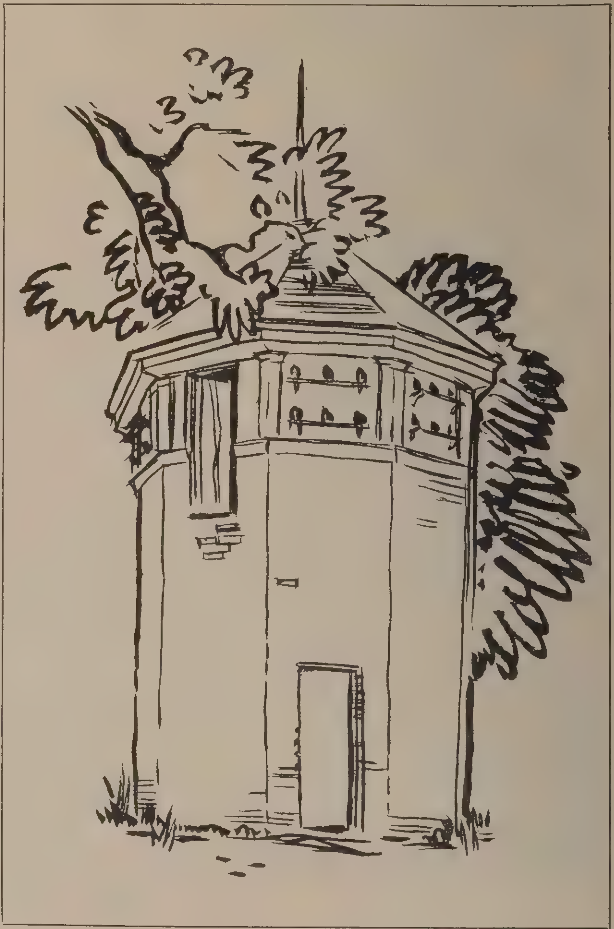
find more intimacy of expression and elegance. The approach is rather splendid, and must have been modeled after the garden architecture of Versailles and the Trianons. There is a certain kinship in the formal avenues with the luxuriant planting and particularly in the placing of many bits of quaintly classic statuary to the work of LeNotre and his contemporaries. It has been done on a very lavish scale, and the result possesses all the suavity and stateliness of the French gardens, together with that rarer quality that comes from proximity to the wilderness. There are many rare plants, with such things as cape jasmine in abundance, and boxwood like a miniature forest that grows 9 feet high. There is a central avenue, and from the front of the house a series of radiating walks and driveways that lead one to all sorts of charming spots. After Weeks Hall's "Shadows of the Teche" at New Iberia, "Rosedown," with its gardens, is probably the finest house of its kind in Louisiana. It is interesting indeed.

"Bellegrove," at White Castle on the west bank of the river, forms a most imposing pile. Originally it must have been somewhat pretentious and "citified," or at least such a thought would naturally come to an architect, we believe, in critically surveying this urbane and extensive mass of structure. Time and neglect, however, have softened the lines and made the fine old house colorful. The type is characteristic of the period just preceding the Civil War. In plan it is semi-formal and spreads in three directions, with a large right wing facing the garden, and at the rear another wing even larger for service, etc. The detail is what makes the building most worth while. It is all executed in the best spirit of the Greek Revival, the plasterwork cleverly modeled and the wood detail, as in the great cypress capitals of the portico, carved in a very spirited manner. Only one or two features of the building tie it in with other Louisiana work of the period. Among those should be noted the use on the facade of typical New Orleans cast iron balcony rails, and in the frieze of the large entablature the insertion of small attic windows such as are found in the old houses on Royal Street.

Today "Bellegrove" is more or less representative of the last of the old plantation days. The weather has stained the old pink stucco in great lavender splotches, and the green moss has entirely covered the walls in parts. Most of the land of the original plantation has been sold, and a wild, semi-tropical growth of vines and shrubbery is slowly creeping up from the garden side of the house. We were delighted with the picture qualities promised by "Bellegrove," but a little bit disheartened at the obvious decay. It was, however, one of only a few of the more important examples seen which are apparently threatened with serious neglect and approaching ruin.



"Bellegrove," White Castle



Dovecote, "Oak Grove"

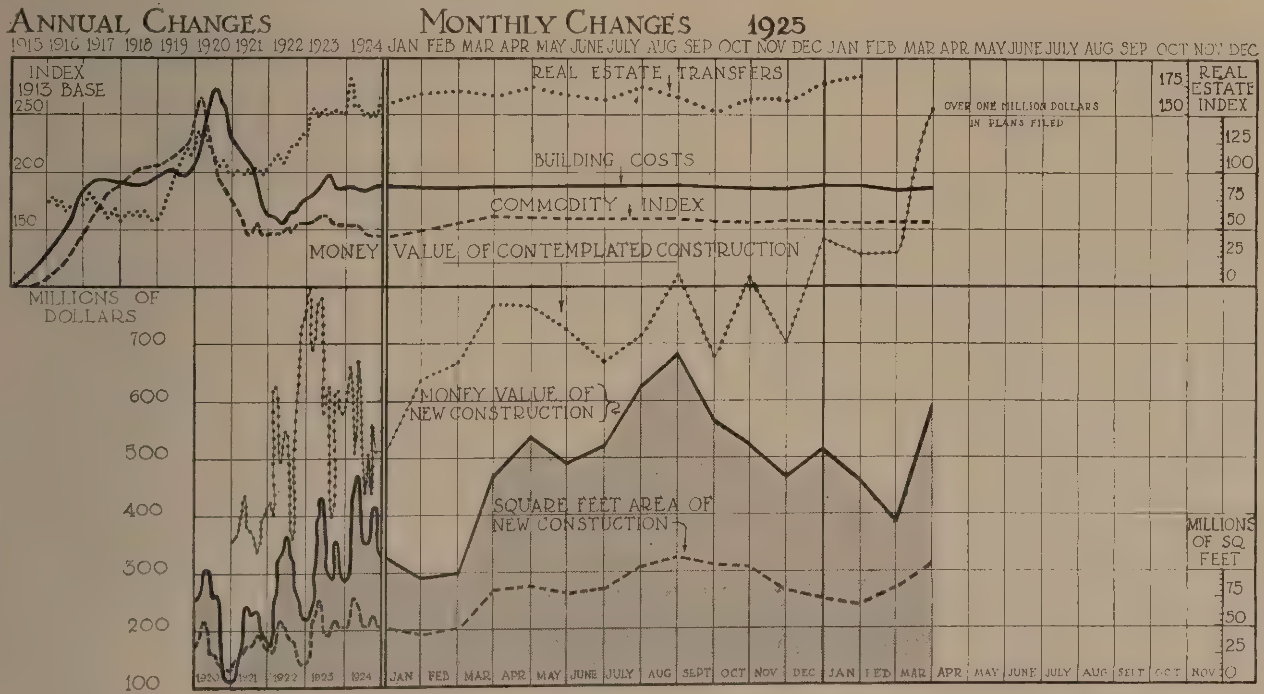
THE BUILDING SITUATION

A MONTHLY REVIEW OF COSTS AND CONDITIONS

FIGURES for the month of March, 1926 show a continuation of the record-breaking volume of construction as indicated in this chart. The total value of building and engineering contracts in the country for the month of March was well over $600,000,000. This amount, according to figures of the F. W. Dodge Corporation, represents an increase of 53 per cent over the month of February and 22 per cent over March of last year.

The total value of contracts let during the first quarter of 1926 is over one and one-half billion dollars, which represents an increase of 30 per cent over the record-breaking figures for the first quarter of last year. It is pointed out that the building boom of 1925 started somewhat later and reached its peak in contract letting during the months of August and September, as will be seen by examining the line showing the money value of new construction on the chart. It is probable, however, that a similar period of large commitment volume will occur during this year as indicated by the amazing volume of contemplated construction shown for January, February and March of 1926 (see chart). Contemplated construction in the form of plans filed during the month of March, 1926 broke all existing records by passing well above the one billion dollar mark—an unprecedented and almost unbelievable volume of prospective building. Approximately half of this proposed construction is in stuctures of residential types, including dwellings, apartment buildings and hotels. Commercial structures, particularly office buildings, predominate among the other classes of plans filed.

In New York state and northern New Jersey, values of contracts let for new construction during the first quarter of 1926 are over 50 per cent more than the total for the first quarter of 1925. In New England new construction during the first quarter is 4 per cent less than last year. In the Middle Atlantic states new construction is 9 per cent greater for the period. In the Pittsburgh district it is 10 per cent less. In the Central West 10 per cent greater. The Southeastern states show a great increase in activity this year, the increase being 72 per cent over the first quarter of 1925. The Northwest shows a 27 per cent increase for the first quarter, and Texas shows an increase of 47 per cent over the first quarter of 1925.



THESE various important factors of change in the building situation are recorded in the chart given here: (1) *Building Costs.* This includes the cost of labor and materials; the index point is a composite of all available reports in basic materials and labor costs under national averages. (2) *Commodity Index.* Index figure determined by the United States Department of Labor. (3) *Money Value of Contemplated Construction.* Value of building for which plans have been filed based on reports of the United States Chamber of Commerce, F. W. Dodge Corp., and *Engineering News-Record* (4) *Money Value of New Construction.* Total valuation of all contracts actually let. The dollar scale is at the left of the chart in millions. (5) *Square Foot Area of New Construction.* The measured volume of new buildings. The square foot measure is at the right of the chart. The variation of distances between the value and volume lines represents a square foot cost which is determined, first by the trend of building costs, and second, by the quality of construction.

Three Types of Stokers for Coal Furnaces

Side-feed Furnace. The furnace shown in Fig. 41 is not a mechanical stoker, but as the principle of combustion on which it is designed is the same as for automatic stokers, it might reasonably be called a semi-automatic stoker. Coal is fed into hoppers at each side of the furnace, and by its own weight feeds down into the furnace as required. The coal is coked on the inclined grates, and the volatile gases distilled in the process of coking are burned in passing over the incandescent mass of coal on the horizontal grates below. The incandescent furnace top or arch deflects the heat downward, thereby maintaining a very high furnace temperature, a condition necessary for successful combustion, and which could not be maintained if the arch were omitted and the furnace exposed to the cooling surface of the boiler. The boiler is operated on natural draft. As it is not necessary to open the furnace door for stoking, there is no heat loss from the large amount of air that flows in when a hand-stoked furnace is being fired. This is often a great advantage.

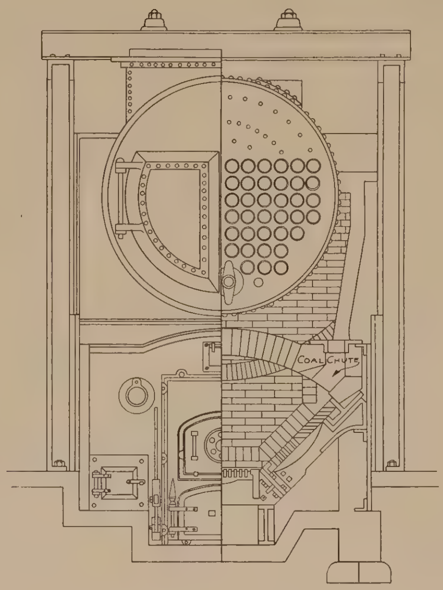


Fig. 41. Side-feed Furnace

Hand-driven Mechanical Stokers. When in operation, (Fig. 42) the grate is a plane surface inclined from the dead plate at the fire doors to about the floor level at the bridge wall. When a new charge of coal is to be applied, the bed is prepared by giving a lever a half throw. This raises the grate bars as shown in the illustration, carrying the coked coal forward. The pull of another lever opens the ash dump to empty the grate of accumulated ashes. By working the grate lever the coal can be moved forward, thickening the bed on the grates to the required depth. Low-fusing ash coal cannot be successfully used with this type of stoker on account of the clinker it would form. Hand-operated stokers are made hopper-fed and hand-fired. With the hopper-fed type the grate blocks are drawn back to allow coal to fall on the front of the grates, where it cokes.

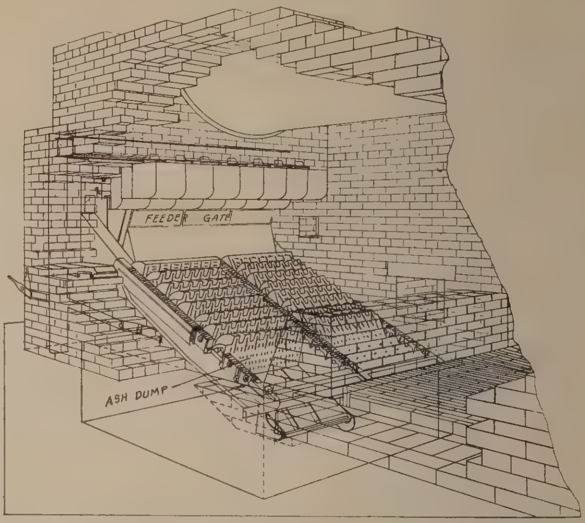


Fig. 42. Hand-driven Mechanical Stoker

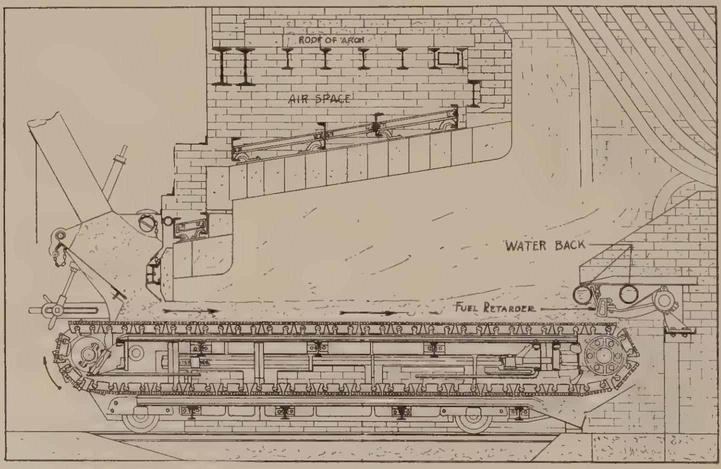


Fig. 43. Chain-grate Stoker

Chain-grate Stokers. Power-operated stokers are divided into three classes:—chain-grate stokers; under-feed stokers, and over-feed stokers. A chain-grate stoker is shown in Fig. 43. This type of stoker is independent of the furnace in that it is not built into the boiler setting. It is mounted on wheels and can be set in place or withdrawn at will. It consists simply of an endless chain of grates which move in the direction of the arrows, carrying the coal progressively from the green fuel through coking and combustion of carbon to the ashpit. At the rear of the furnace the traveling grate projects under an overhang of the bridge wall. The problem here is dual, to seal this space against the infiltration of air, and to prevent live or unburned coal being carried away with the ashes. This is accomplished by means of the bridge wall overhang, the water back and the water-cooled fuel retarder. Fire-brick at this point would clinker and clog the furnace, so water-cooled barriers which will never become hot enough for clinkers to adhere to had to be substituted. The water back is connected to the boiler, so that all heat absorbed from the fuel by the water within will pass to the boiler.

The steel beams and members which support the arch are enclosed in an air space protected by fire-brick or fire-blocks from the intense heat of the furnace. A fuel box with an arch always has a higher temperature than one without. Exposing the first row of boiler tubes to the radiant heat of the fuel bed gives a lower furnace temperature and greater life to the brickwork. A chain-grate stoker requires for the stoker engine about 30 pounds of steam per hour. This is a more or less fixed amount, independent of the rating of the boiler.

ENGINEERING DEPARTMENT

Power and Heating Plants

MECHANICAL STOKERS

By J. J. COSGROVE

EDITOR'S NOTE. This series of articles was begun in THE FORUM for April, 1925, when Mr. Cosgrove discussed "The Generating Plant: Boilers," continuing his treatment of the subject in the issues for August and October. In the November FORUM, Mr. Cosgrove wrote of "Commercial Types of Boilers and Furnaces." One article following the present paper on "Mechanical Stokers" will conclude the series.

MECHANICAL stokers are indispensable in large plants using coal for fuel, from the standpoints of economy, efficiency and capacity to carry heavy overloads. Mechanically-stoked boilers are more nearly smokeless in operation than are hand-fired boilers, and generally smokeless combustion means more efficient combustion.

Cheap fuels, which are usually inferior fuels, can be burned on stoker grates when they could not be successfully used in a hand-fired furnace. This makes available local fuels, such as screenings; coal high in moisture; high in ash; high in sulphur or iron; and some grades of lignite, particularly those containing not over 30 per cent of moisture. While it is true that mechanical stokers will burn all kinds and grades of inferior fuels, all stokers will not burn every kind of low grade fuel. Some stokers are designed for anthracite and coke breeze. Others for high grade bituminous steam coals. Certain types require coal high in ash content, so that the ashes will protect the grates. Mechanical stokers are built for the burning of mine refuse or "culm" containing as high as 30 per cent of ash. Semi-bituminous and semi-anthracite are the fuels for still other stokers. Coal with a low-fusing ash cannot be burned on grates which agitate or disturb the fuel bed, as it will cause clinker, so every plant being designed must have selected for it a stoker designed for the fuel it is intended to use. Free-burning coals burn best when the fuel bed is undisturbed. Coking coals, on the other hand, require fuel bed agitation. High ash coals must have the ashes removed continually from the grate. In low ash coals this is not necessary. Clinkering coals must not be agitated or clinker formation will result. With non-clinkering coal, agitation has a very much less troublesome effect.

Stokers are built to operate under natural draft or forced draft, and for different rates of fuel combustion and for different draft pressures. So far as efficiency of combustion is concerned, however, the different types of stokers will give approximately the same results, all conditions being equal, provided the right type of stoker is installed for the kind or grade of fuel to be burned and the conditions under which it will operate. These conditions must be determined first, however, and a type of stoker selected that will fulfill the requirements. A mechanical stoker makes possible the use of cheaper fuel with as much or even more economy than can be obtained under operating conditions in hand-fired boilers with a better grade of coal. Or, using the same grade of coal, the mechanical stoker will burn it with a greater degree of efficiency, so that the boiler will develop more power per pound of fuel, which is economical.

A greater amount of coal can be burned per square foot of grate on a mechanical stoker than in a hand-fired furnace, consequently allowing for a greater overload. A plant that must be operated frequently at ratings of 300 to 400 per cent, which is from three to four times the rated capacity of the boilers, based on the manufacturers' rating of one horsepower to 10 square feet of heating surface, must be equipped with a mechanical stoker and forced draft so it can be driven at the required rate. in large plants, operated mechanically with coal hoppers for feeding the stokers and automatic ash removal, the labor costs are reduced. One man can tend as many as 1400 developed horsepower as against one man to every 400 or 500 developed horsepower in hand-fired plants. In small plants, upon the other hand, the saving in labor over hand-fired boilers is negligible. It follows that mechanical stokers are not of so great an advantage in small plants, unless the saving in fuel will be large, or unless they have to be installed to prevent the smoke nuisance. Hand-operated

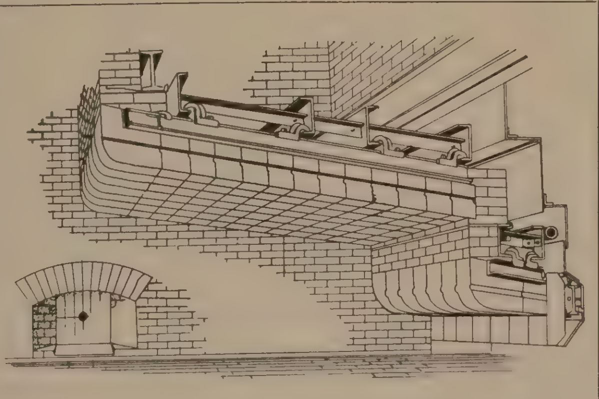


Fig. 44. Arch for Chain-grate Stoker

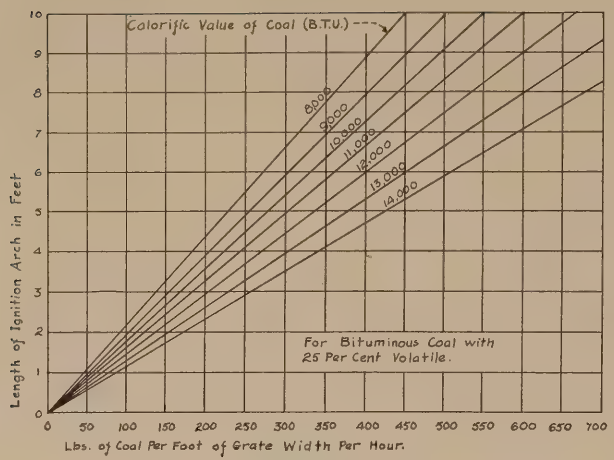


Fig. 45. Arch Lengths and Ignition Rates

stokers, however, can often be installed in small plants and effect both greater efficiency and higher economy of operation in addition to increasing the capacity. Much depends upon the size of the plant.

The expense for upkeep is naturally higher for mechanical stokers than for hand-fired boilers, and this cost, together with the cost of power for operating the stokers, must be charged against them. The power for operating stokers may be either electrical or steam. It requires about 2 per cent of the boiler rating for steam to operate mechanical stokers with natural draft, and from 2½ to 3½ per cent for forced draft. Another loss in stoker firing is the ashpit loss. A certain amount of fine coal sifts through the grates into the ashpit. This loss is sometimes as high as 6 per cent and will average about 3 per cent. In some cases it has been kept as low as 1 or 2 per cent.

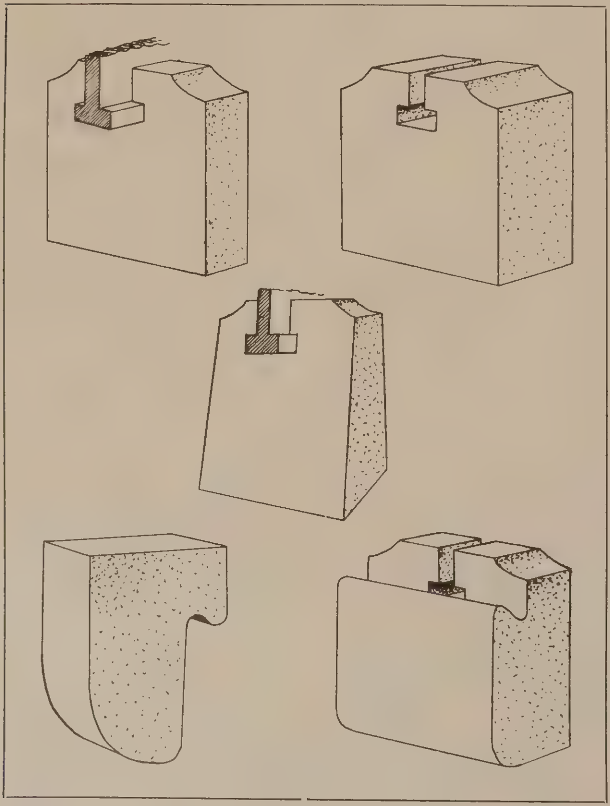


Fig. 46. Special Blocks for Flat-arch Construction

Mechanical stokers for coking coals are designed to burn coal by the progressive or coking process. Coal, whatever its grade, contains five major ingredients. They are: water, known as "moisture"; tar; coke; ash and impurities such as iron, sulphur, lime and magnesia. Of all the ingredients, the tar and the coke alone are the combustibles. The other portions are what cause trouble in firing. The tar, when distilled in the high temperature of the furnace, becomes gas, which mixing with air burns freely. It is what is known and generally spoken of as the volatile, and amounts to as high as 48.40 per cent, or nearly one-half the weight of the fuel. In anthracite, on the other hand, the tar or volatile is sometimes as low as 2.48 per cent. Owing to this difference, bituminous coal which is rich in tar is known as a "high volatile" coal, while anthracite which is poor in tar is known as a "low volatile" coal. The coke in some bituminous coals is of as low a proportion as 38.75 per cent, while in some anthracite it is as high as 86 per cent. Coke in coal is spoken of as "carbon," so that a bituminous coal is "low" in carbon content, while anthracite is "high" in carbon.

Iron and sulphur, also lime and magnesia, cause clinker. Ash, the residue after burning, clogs the grates, shutting off the supply of air unless removed. Moisture must be evaporated, and it requires as much heat to do so in the furnace as though in the boiler.

In the burning of coal, melting and distillation of the tar take first place. When introduced to the high temperature of the firebox, the light volatiles or oils are first distilled. Next comes the heavy tar, and finally, when all volatiles are driven off, the carbon is consumed, leaving only the clinker and ash which represent the impurities originally existing in the coal. The volatiles burn with a long flame, and as they distill rapidly they fill the combustion chamber and baffle passage between the water tubes of the boiler. The coke burns with a vivid glow but with comparatively little flame. The volatiles are known as the "long flame" combustion, the cokes as "short flame." As anthracite coal is almost all fixed carbon, there is so little volatile to drive off that it does not lend itself readily to the coking or progressive method of firing; therefore the same saving cannot be effected by using anthracite as can be had by burning all the different grades of bituminous coal.

In the coking process, which is the mechanical-stoker process of combustion for coking coals, the coal is fed in a continuous stream of uniform depth of bed and the full width of the stoker grate. The coal is then carried progressively forward by a movement of the grate or some of its parts. As soon as the coal enters the furnace, heat drives off some of the volatile, which is ignited and kept burning by the heat of the fire-brick arch and walls. The coking

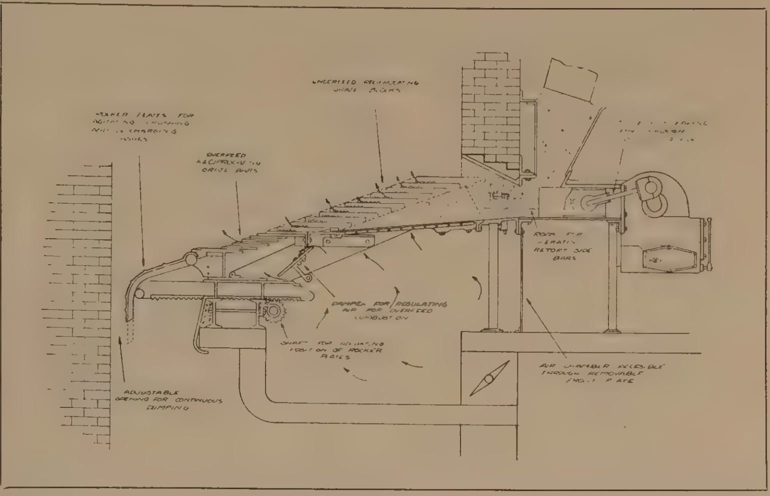

OVERFEED RECIPROCATING GRATE BARS
DAMPER FOR REGULATING AIR FOR OVERFEED COMBUSTION
SHAFT FOR ADJUSTING POSITION OF ROCKER PLATES
ADJUSTABLE OPENING FOR CONTINUOUS DUMPING
RETORT SIDE BARS
AIR CHAMBER ACCESSIBLE THROUGH REMOVABLE FRONT PLATE

Fig. 48. Section Through Under-feed Stoker

process is completed before the fuel has traveled far, and then the carbon burns progressively until the moving mass reaches the place where the ash is discharged. When, therefore, a furnace and stoker are properly designed, the carbon and volatiles have yielded their heat by the time they reach this point, and the ash is automatically discharged into the ashpit or hopper below. This describes the coking process.

Arch for Chain-grate Stoker. The proper coking of coal in the furnace and the quick ignition of the gases depend upon a hot fire on the rear portion of the grate and a properly designed arch to deflect the heat from the hot fire onto the incoming coal. In hand firing, the green coal is thrown on top of glowing coals and readily ignited. With chain-stoker feed, a constant stream of green coal is fed into the furnace at one end of the grate or stoker, and against a bed of green or only slightly coked coal. The heat to coke this coal and ignite the gases arising therefrom must come from the back of the furnace and the arch. The design of the arch depends upon the type of stoker to be installed. In the chain-grate stoker, it is flat, as shown in Fig. 44. The variables which affect arch design are the amount of coal to be ignited per foot of stoker width per hour, the percentage of volatile in the fuel, and the heat value of the coal. The longer the stoker grate and the greater the amount of coal to be burned per linear foot of grate per hour, the greater must be the ignition effort. Therefore, all other items remaining constant, longer arches must be provided for higher combustion rates and for longer stokers.

In the chart (Fig. 45) can be found the arch lengths with the corresponding ignition rates possible with a variety of bituminous coals containing 25 per cent or more of volatiles. The use of the chart is thus explained. If it is desired to obtain a combustion rate of 35 pounds of coal per square foot of grate surface per hour, on a chain grate having an active grate length of 10 feet, and coal with a heat value of 10,000 B.t.u., the ignition rate would be, 35 x 10 = 350 pounds per hour. Trace upward on the chart from the ignition rate of 350 pounds to where the line intersects the 10,000 B.t.u., coal line, and then level over to the left hand margin. This will show that an arch 6.3 feet long will be required. The graphs shown are based on actual performances with fuel of high volatility, under close observation.

Height of arch is equally important in the design of a stoker furnace, and the slope is as important as the height. It is found that the arch must have a pitch upwards toward the rear for the best results, and that it must have a definite height above the fuel bed. Experiments at all heights from zero to 24 inches above the top of the fuel bed indicate that for average conditions a height of 15 inches will give the best general results. As to the slope, experiments so far have not determined the exact pitch, but they have determined the limits between which the best results can be obtained. A pitch of 2 inches per foot is better than 1 inch. At a pitch of 4 inches and over there is a slight tendency to smoke. The best pitch, then, lies somewhere between 2 inches per foot and 4 inches per foot. It is probably around 3 inches per foot, which would be quite a fair average.

Parabola arches, when properly designed and proportioned to height, length and pitch, give very intense ignition results. They are hard to keep in repair, however, and if built as true arches, they exert a thrust, often very decided, on the side walls.

The limiting factor in the design of a stoker is the ability of the arch to ignite the coal. Arches can ignite as high as 60 pounds of coal per square foot of grate surface, which limits the rate of combustion to that amount. Stokers are designed to burn fuel at different rates, ranging anywhere from 20 to 60 pounds per square foot of grate surface per hour, and the ignition arches must be designed to ignite the fuel at the maximum rate at which it is designed to be used, if the best results are to be obtained. Special blocks

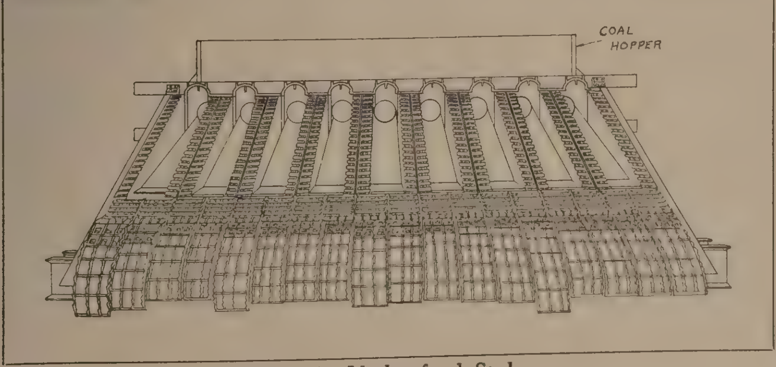


Fig. 47. Under-feed Stoker

are made for flat-arch construction. A number of flat-arch blocks of different shapes are shown in Fig. 46. The blocks are suspended from the lower flanges of I-beams, or from special T-beams on which they are strung. They interpose the full thickness of their bulk between the iron or steel beams and the interior of the furnace, as the illustration shows.

Under-feed Stokers. The distinguishing feature of under-feed stokers is, as the name would imply, that coal is thrust into the furnace under the coals and ashes already there, instead of on top, as in hand-firing, or continuously at one end at the top as in chain-grate firing. One type of under-feed stoker is shown in Fig. 47. Coal enters the furnace through a series of retorts, forced in from the hopper by a plunger. The retorts are separated from one another by a series of tuyeres through which heated air enters the furnace to carry on the process of combustion. The tuyeres forming the sides of the retorts are not stationary. They are made up of a series of plates, one on top of another, with air outlets between. These plates are reciprocating, those forming one side of a retort moving forward as the other side moves backward, thereby moving the fuel down the incline and thickening the fuel bed. At the lower end of the incline, near the bridge wall, the fuel bed passes on to over-feed grate bars, then to reciprocating plates for agitating, crushing and discharging the ashes. The retort sides operate the over-feed grates.

Over-feed Stokers. A mechanical stoker which operates on natural draft and is known as a side over-feed, or opposed type stoker, is shown in Fig. 49. At each side of the furnace extending from front to rear are coal magazines from which coal is fed to the furnace. To enter the furnace, coal must pass through a throat formed by a movable "stoker box" which rests upon and moves horizontally over a coking plate or ledge. The distance of travel of this stoker box regulates the feed to that side of the furnace. As the coal leaves the magazine it rests for a short time on the coking plate. Here the volatile gases are driven off and mixed with preheated air delivered through the arch-plate air-ducts.

The grates are made in pairs, one fixed and the other movable. The fixed grates rest at their upper ends against the coking plates. The lower ends are supported by the grate bearers. The movable grates are pivoted at their upper ends and actuated at the lower ends by a rocker shaft. This alternate movement breaks up the fuel bed, prevents avalanching, keeps the grate clinker free, and advances the ash gradually to where it is removed by the clinker grinder.

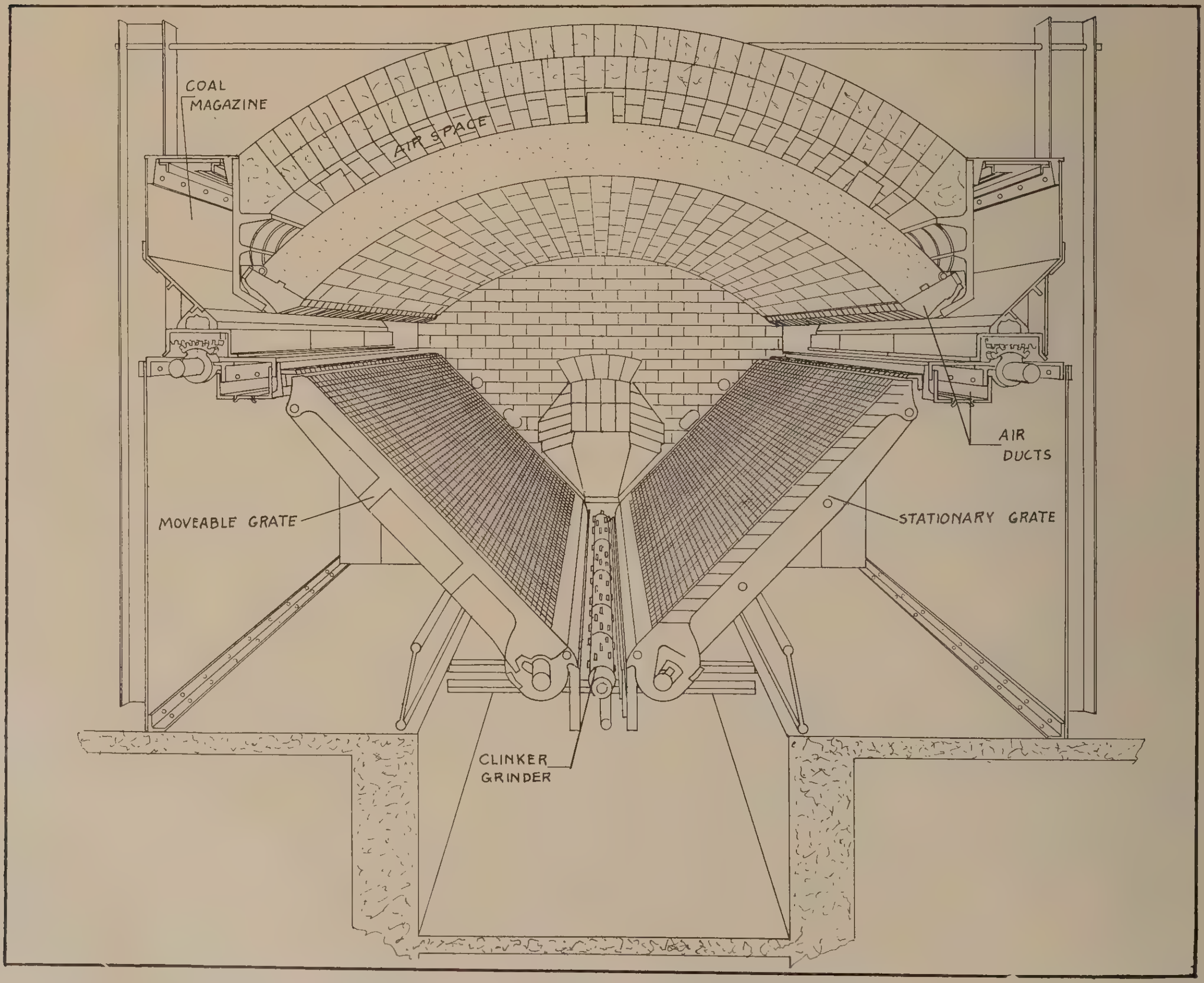


Fig. 49. Side Over-feed or Opposed Type Stoker

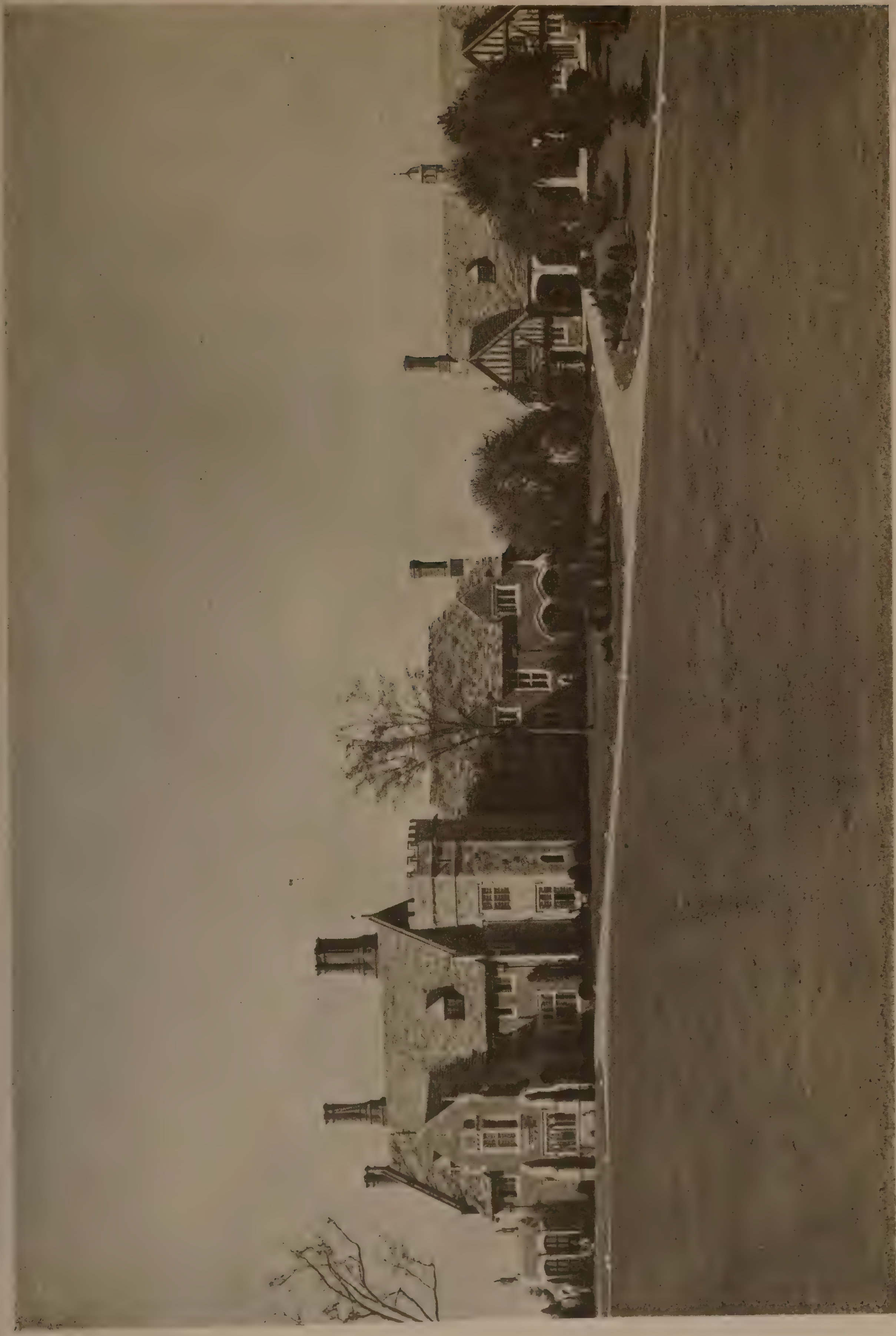
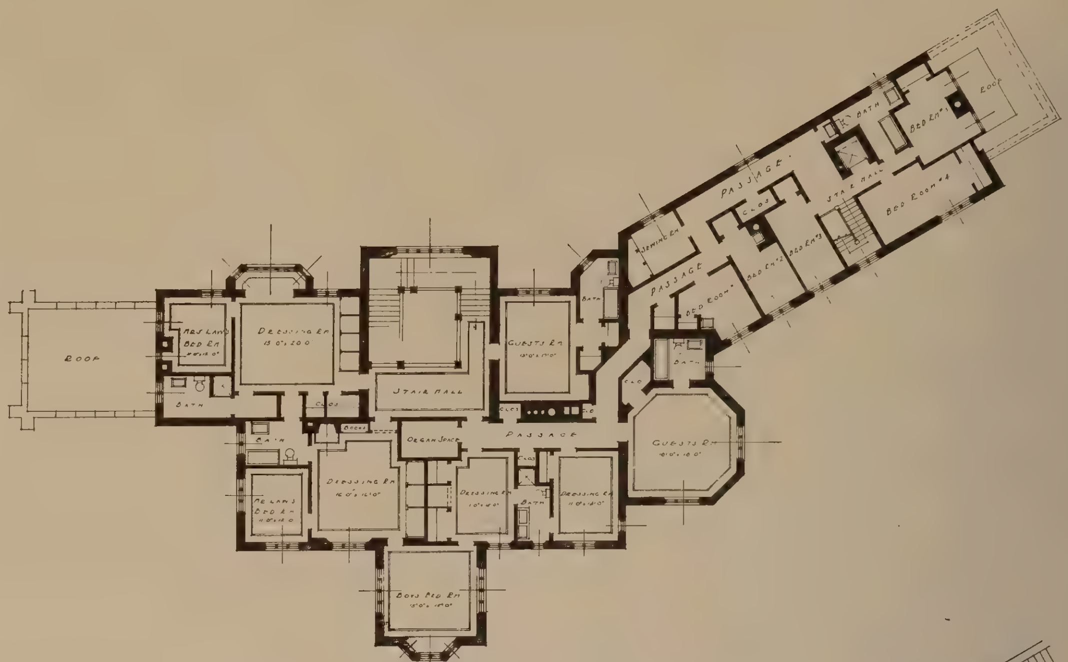


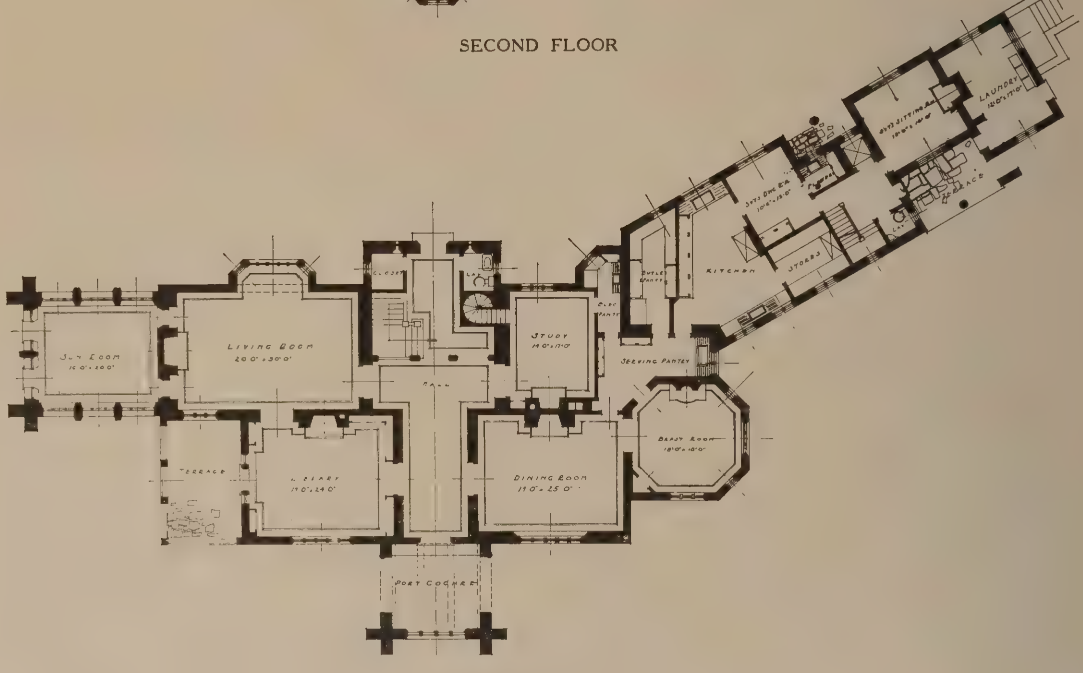
Photo. John Wallace Gillies

HOUSE OF ROBERT LAW, JR., ESQ., PORTCHESTER, N. Y.
DWIGHT JAMES BAUM, ARCHITECT

Plans on Back


ROOF
MRS LAW'S BED RM
DRESSING RM 13'0" x 20'0"
BATH
STAIR HALL
CLOS
BOOKS
ORGAN SPACE
GUESTS RM 13'0" x 17'0"
BATH
CLOS
PASSAGE
GUESTS RM 18'0" x 18'0"
BATH
MR LAW'S BED RM 11'0" x 12'0"
DRESSING RM 16'0" x 16'0"
DRESSING RM 10'0" x 14'0"
BATH
DRESSING RM 11'0" x 14'0"
BOYS BED RM 15'0" x 14'0"
SEWING RM
PASSAGE
CLOS
BED ROOM #1
BED RM #2
BED RM #3
STAIR HALL
BATH
BED RM #4
BED ROOM #4
ROOF

SECOND FLOOR


SUN ROOM 16'0" x 20'0"
LIVING ROOM 20'0" x 30'0"
CLOSET
LAV
HALL
STUDY 14'0" x 17'0"
ELEC PANTRY
BUTLER'S PANTRY
KITCHEN
STORES
SERVING PANTRY
TERRACE
LIBRARY 19'0" x 24'0"
DINING ROOM 19'0" x 25'0"
BREAKFAST ROOM 18'0" x 18'0"
PORT COCHERE
SVTS DNG RM 10'6" x 13'0"
SVTS SITTING RM
LAUNDRY
TERRACE

FIRST FLOOR

PLANS, HOUSE OF ROBERT LAW, JR., ESQ., PORTCHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

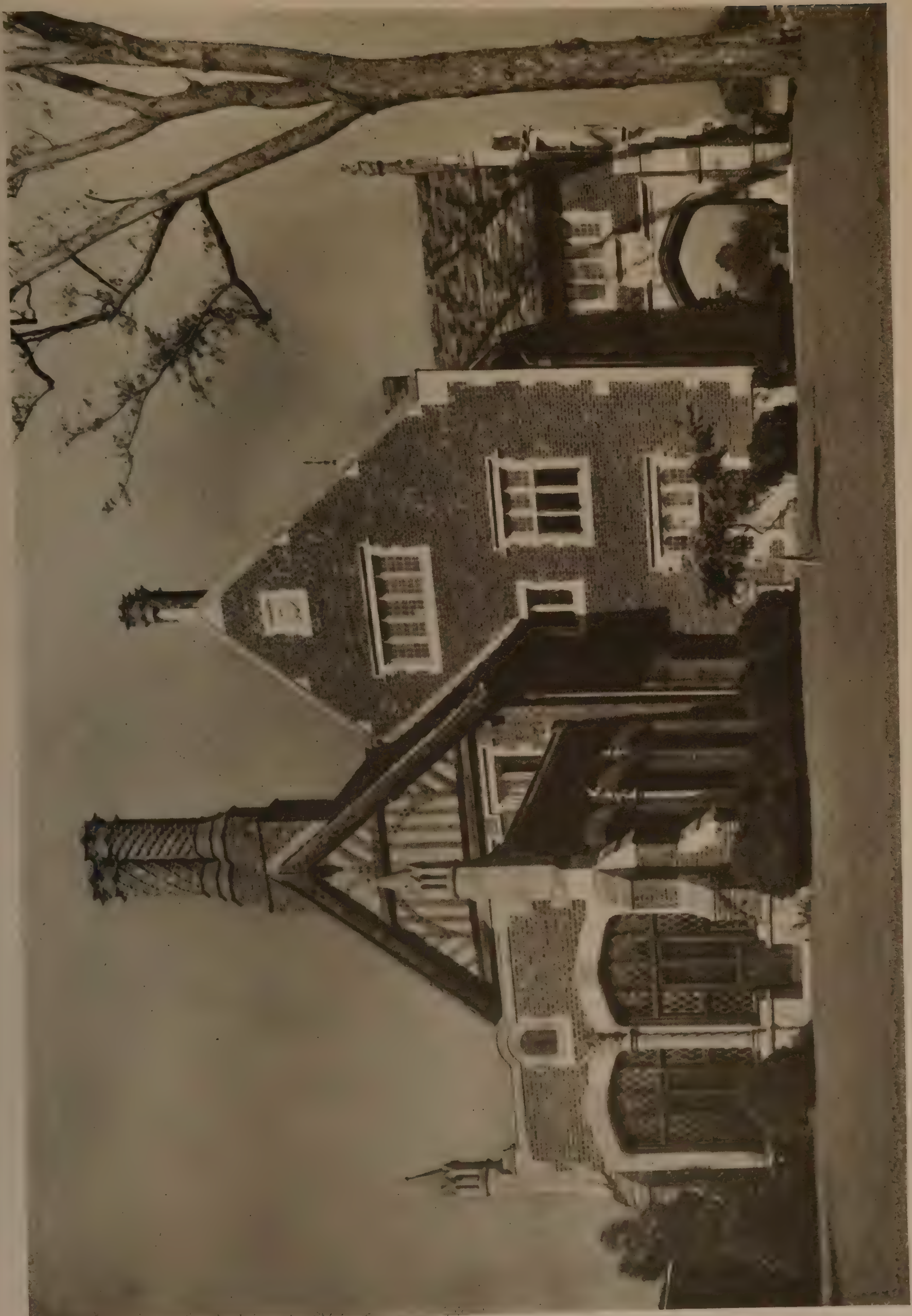


Photo. Paul J. Weber

HOUSE OF ROBERT LAW, JR., ESQ., PORTCHESTER, N. Y.
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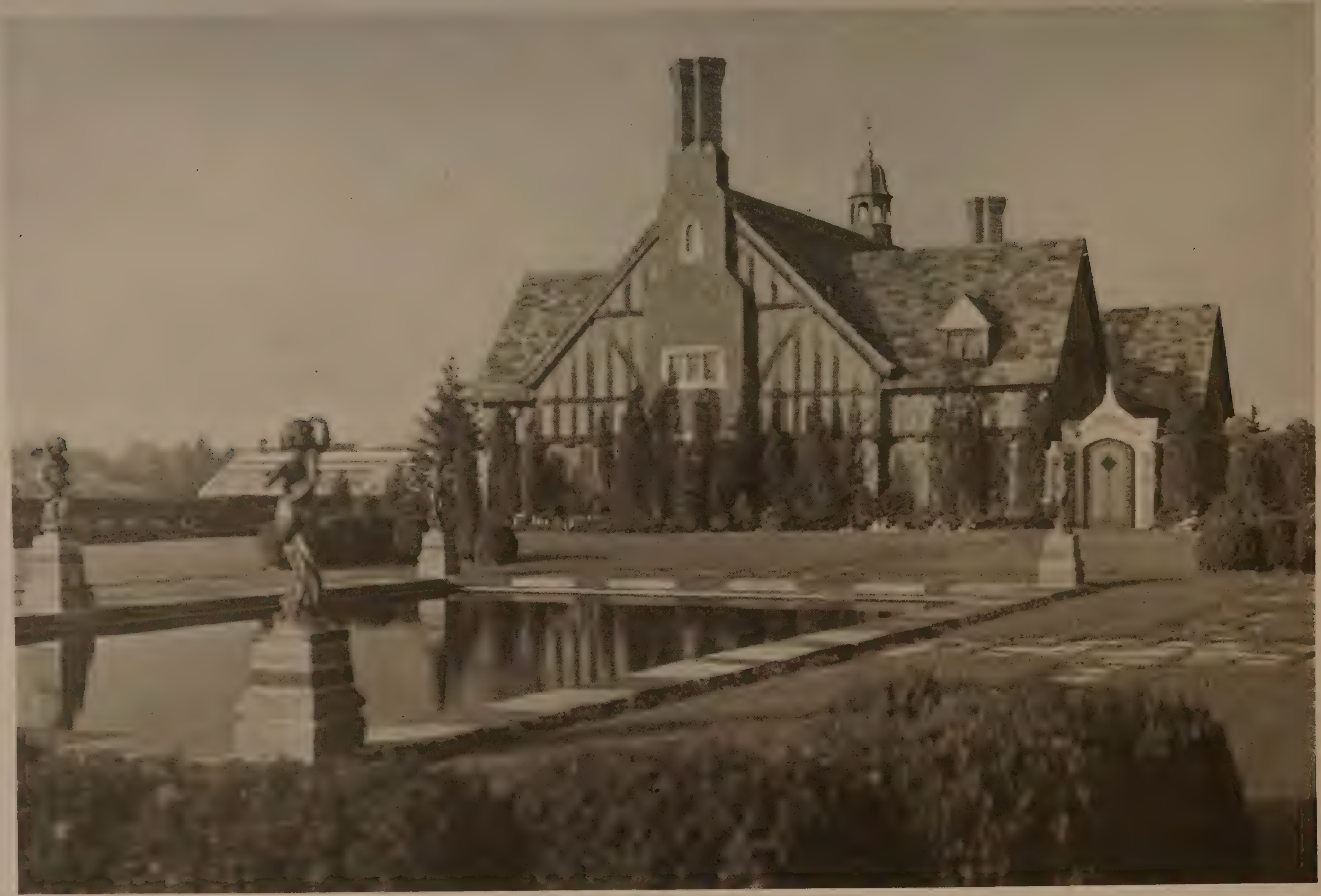

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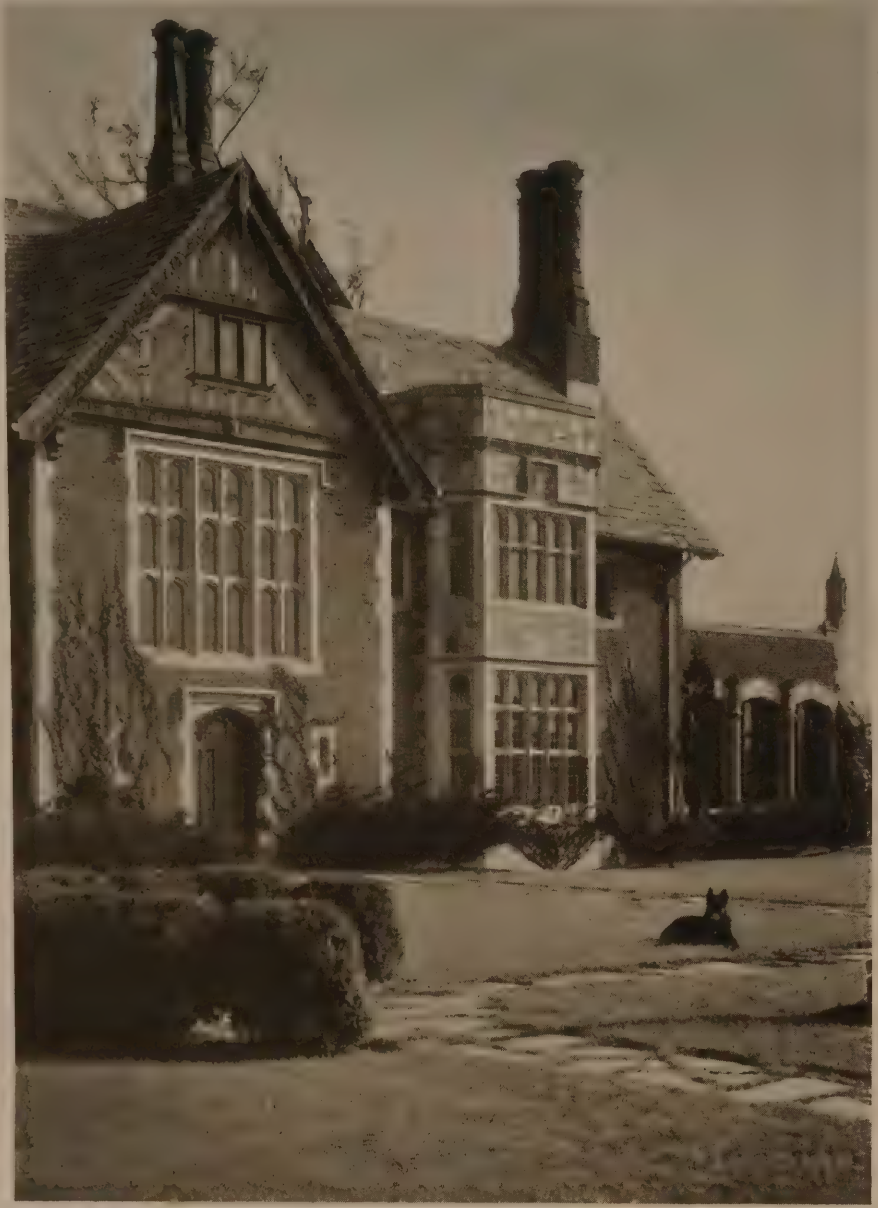
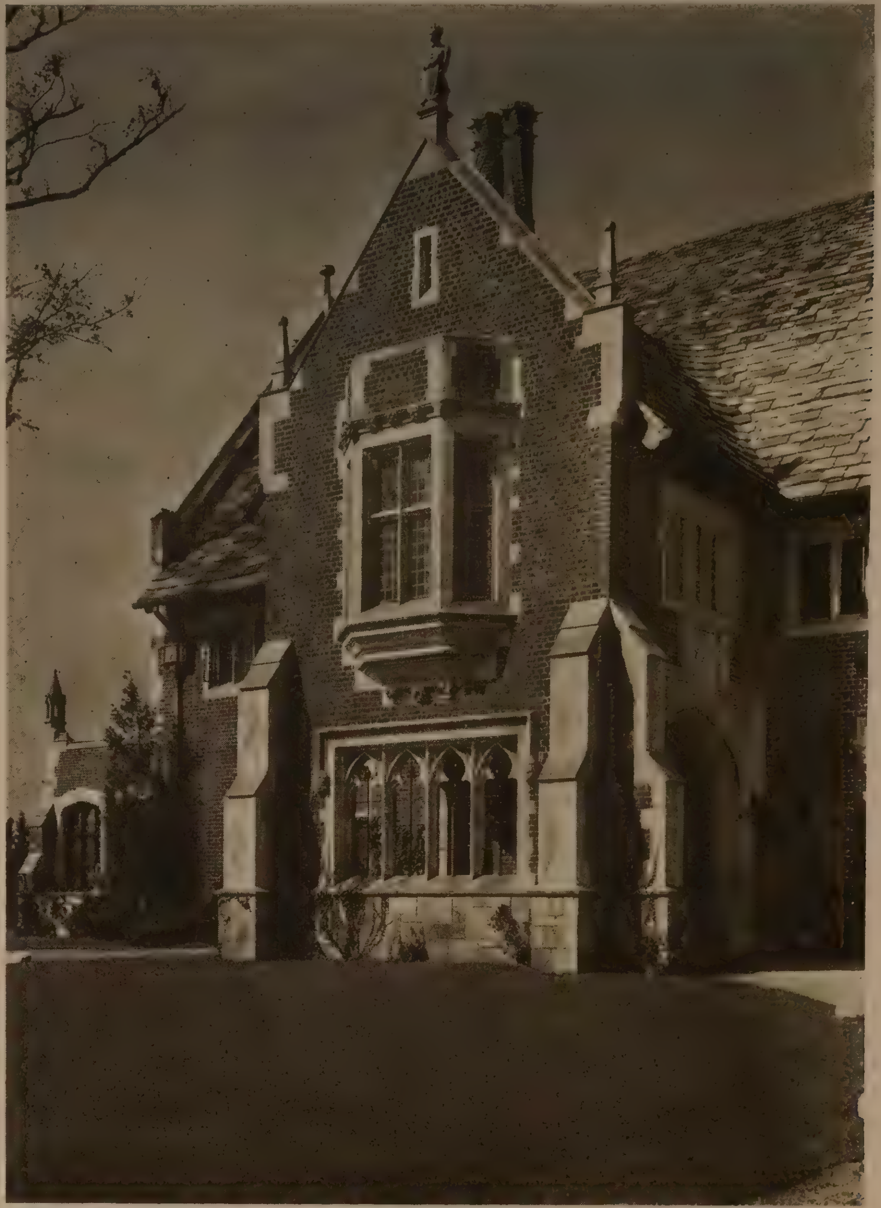
GARDEN AND GARAGE
HOUSE OF ROBERT LAW, JR., ESQ., PORTCHESTER, N. Y.
DWIGHT JAMES BAUM, ARCHITECT



Photos. Paul J. Weber

GARDEN FACADE



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THE PORTE-COCHERE

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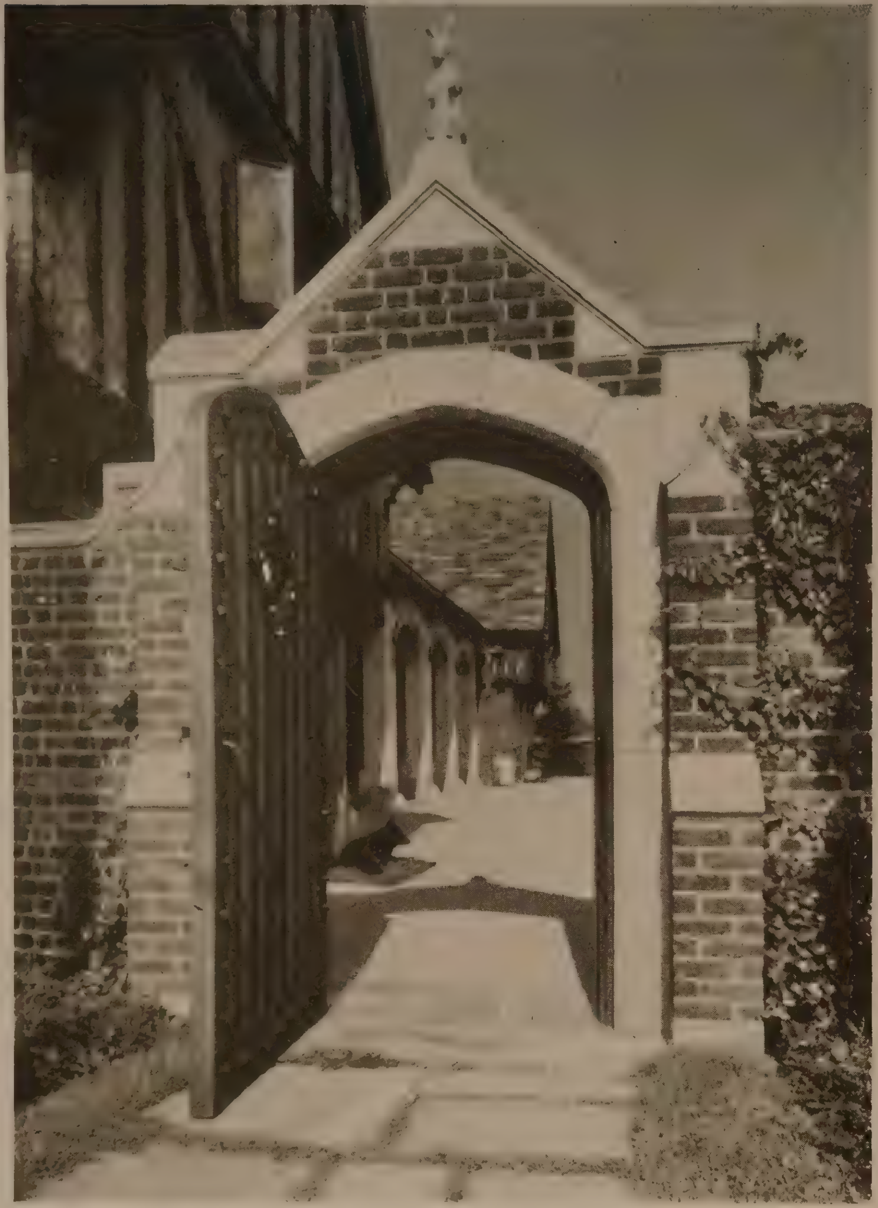
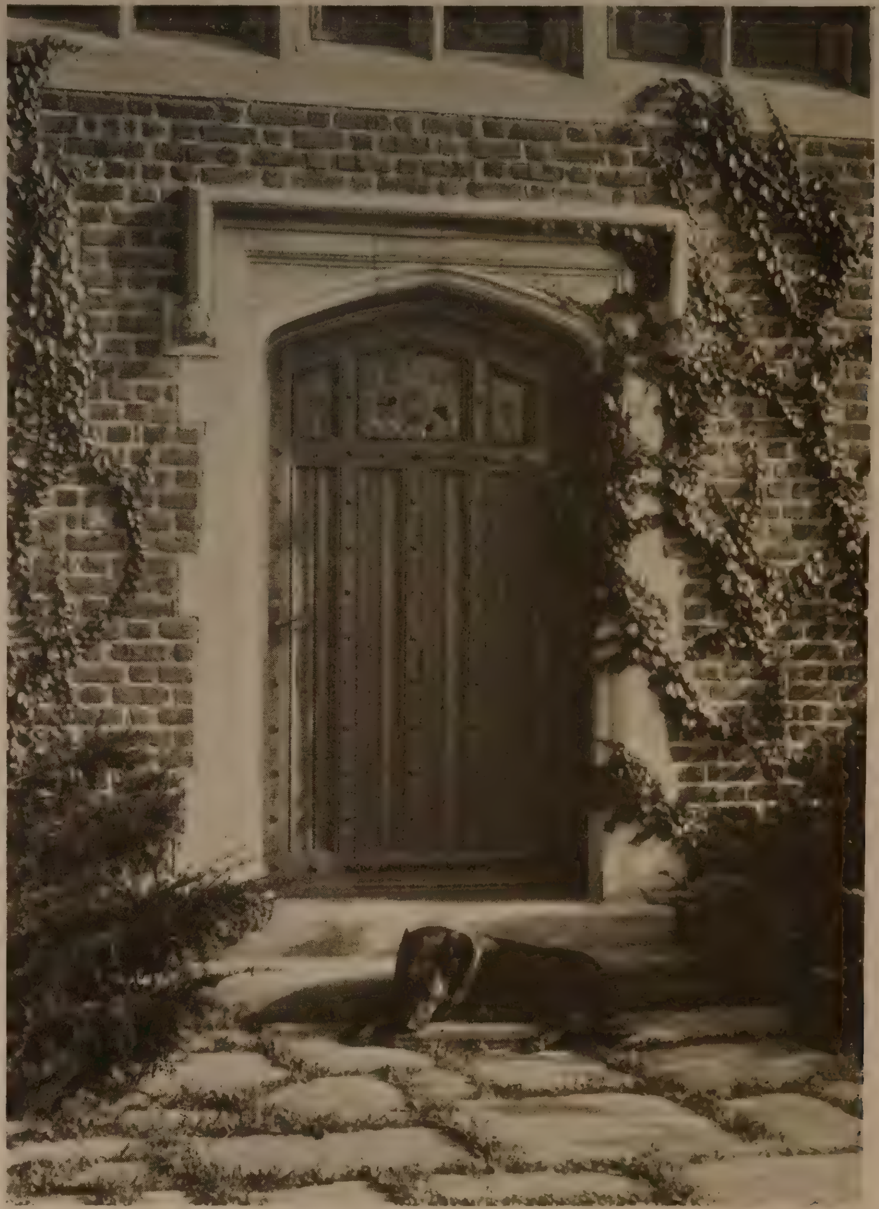
DWIGHT JAMES BAUM, ARCHITECT



Photos Paul J. Weber

GATEWAY, GARAGE COURT



ENTRANCE FROM GARDEN

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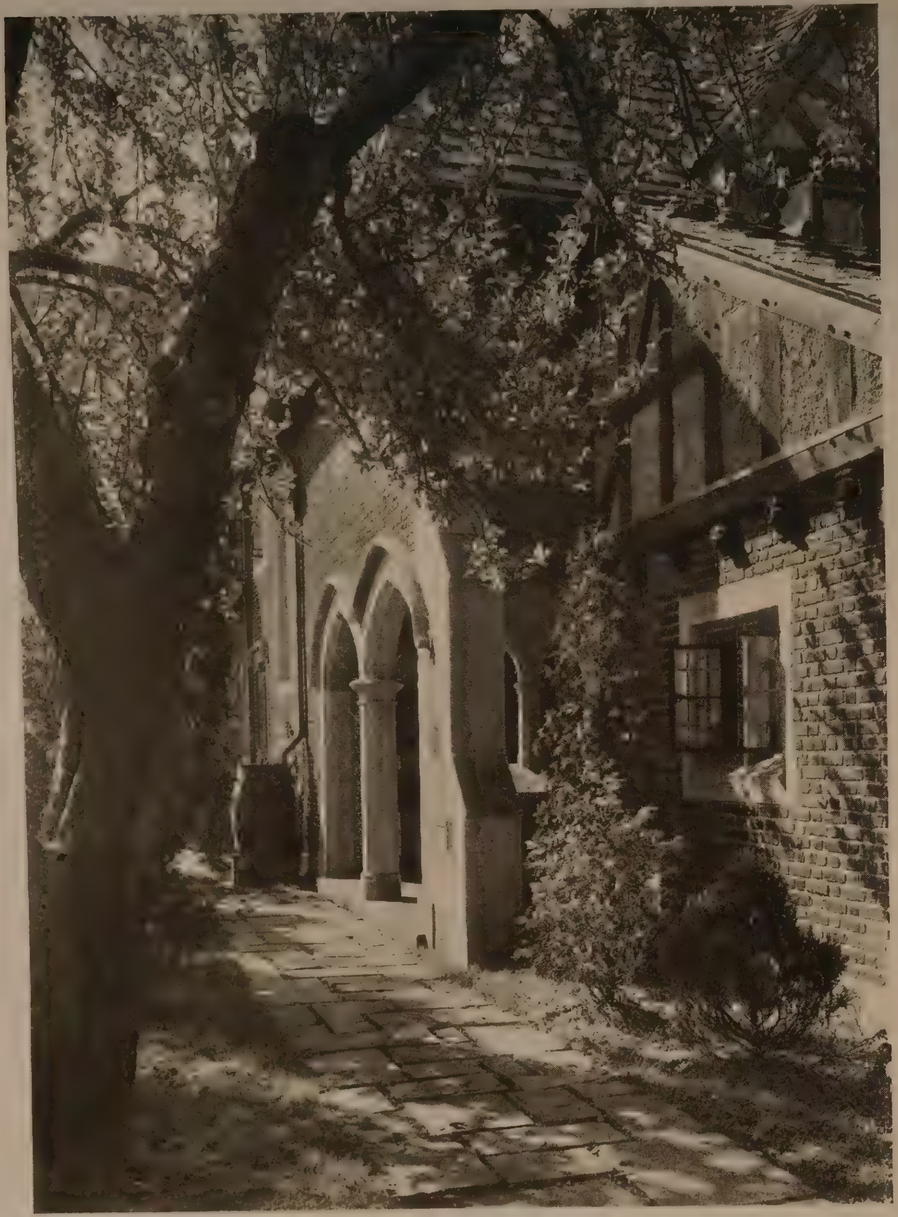
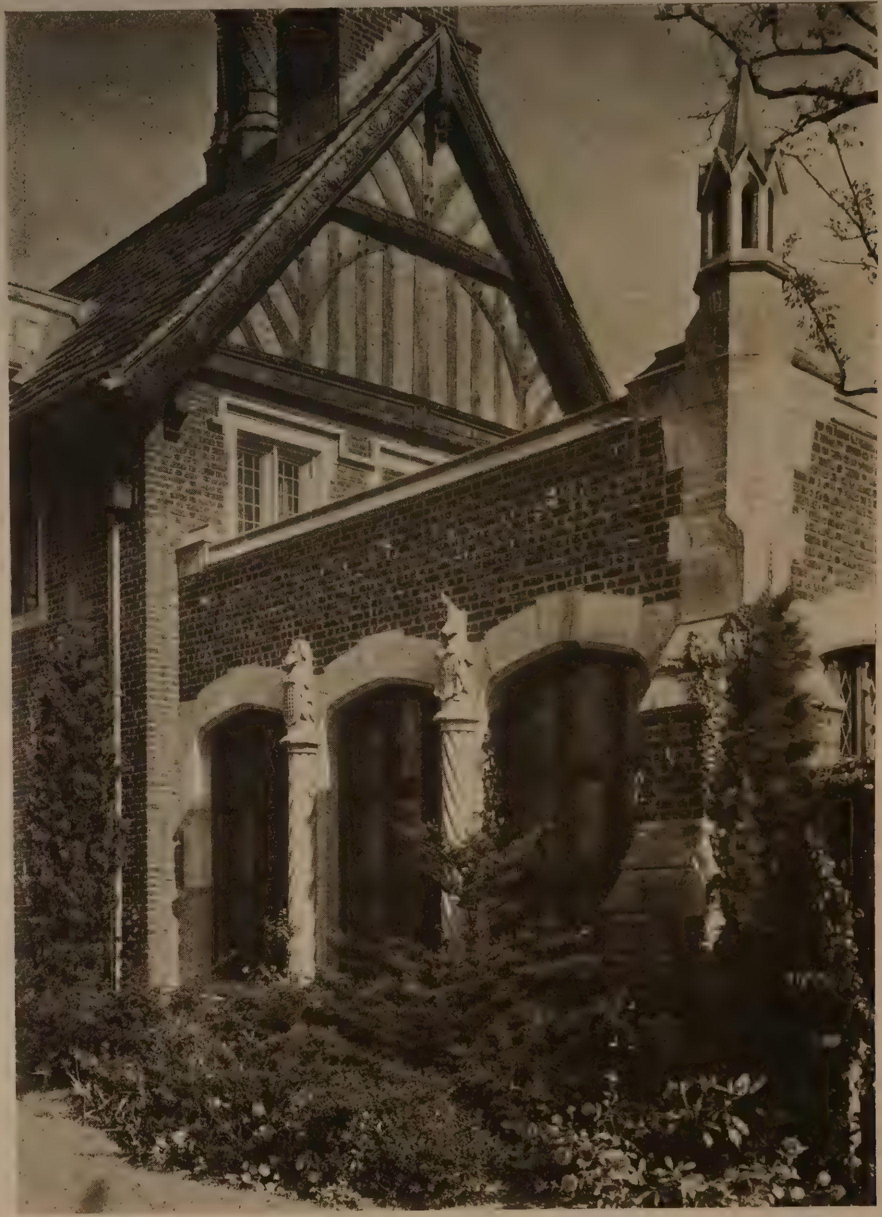
DWIGHT JAMES BAUM, ARCHITECT



Photos. John Wallace Gillies

SERVANTS' WING



SUN ROOM

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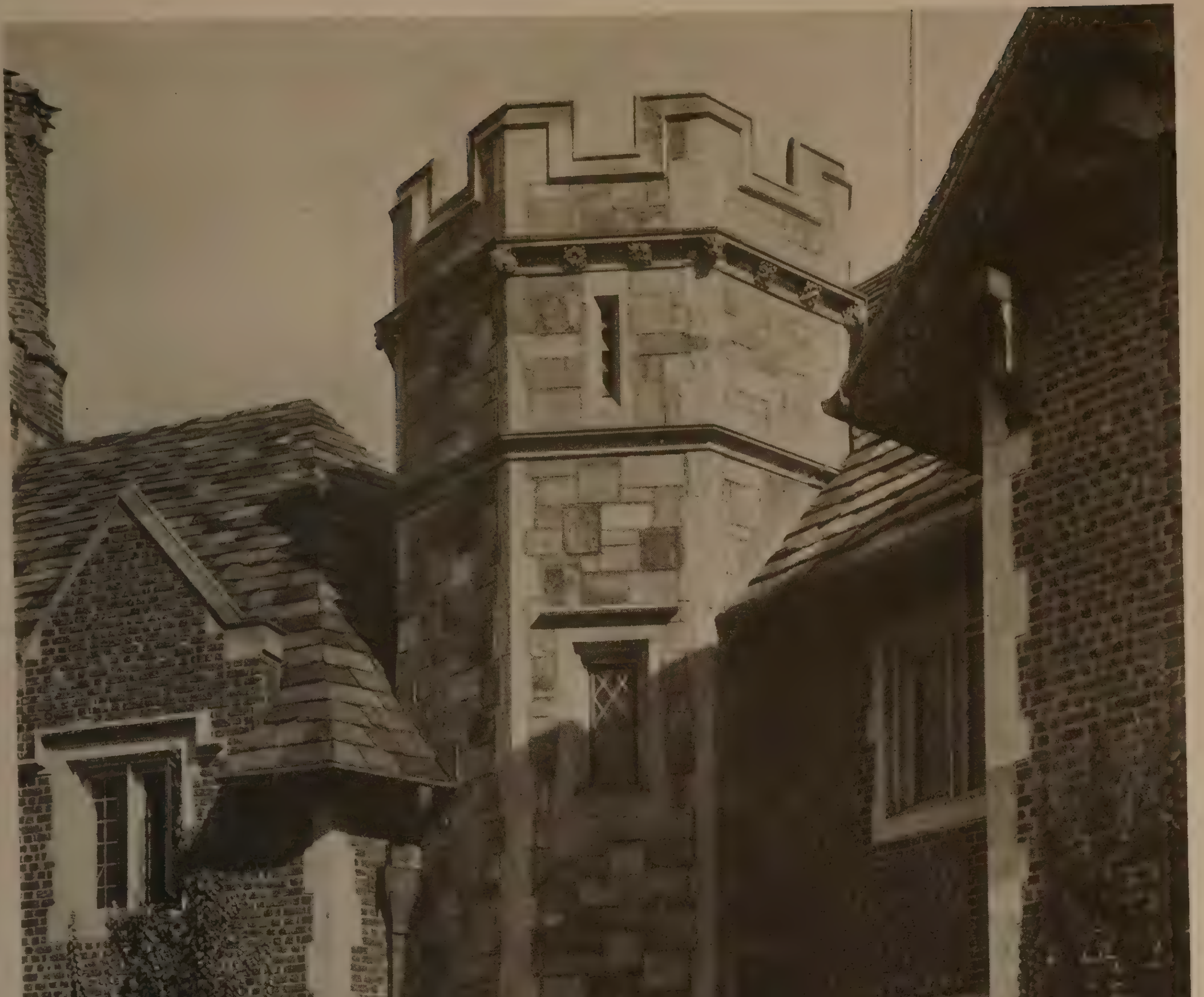
DWIGHT JAMES BAUM, ARCHITECT



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PART OF GARDEN FACADE

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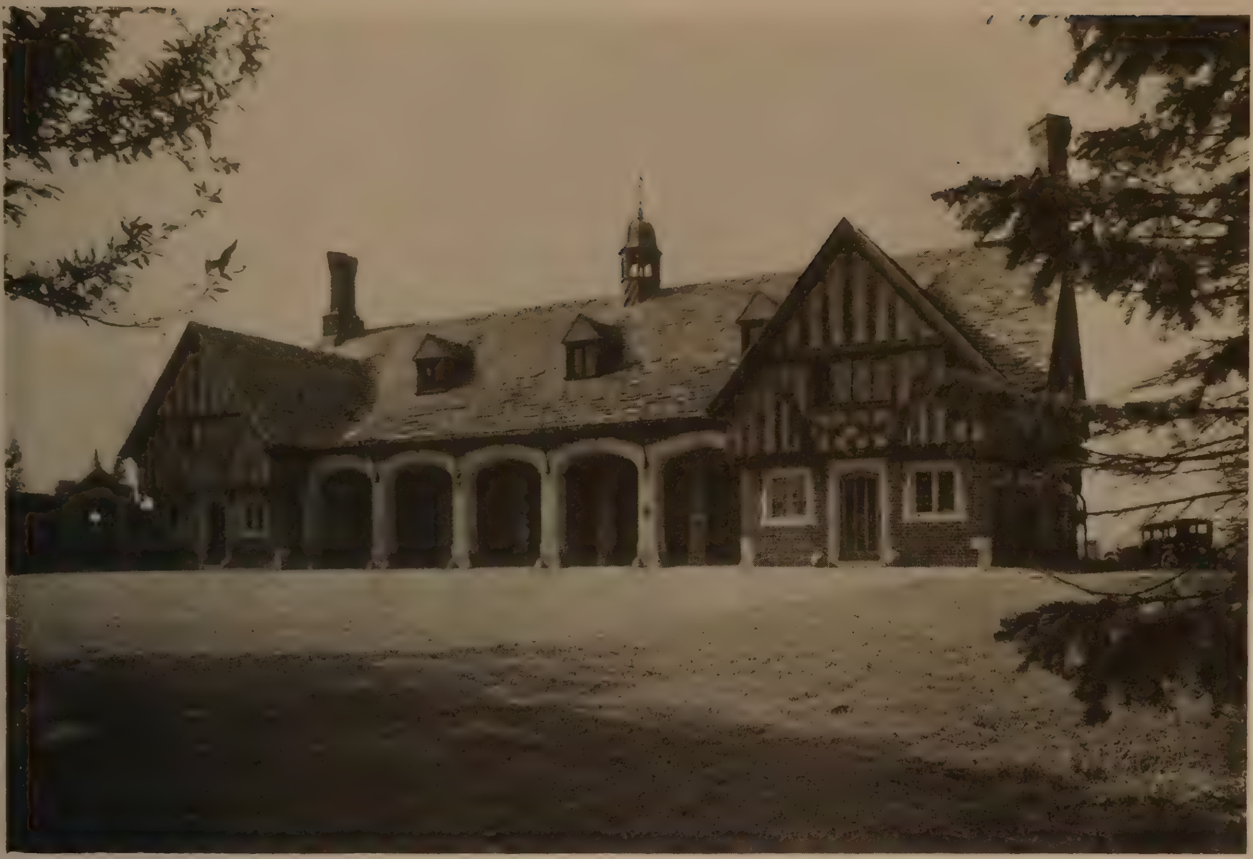


Photo. Paul J. Weber

GARAGE COURT AND ENTRANCE

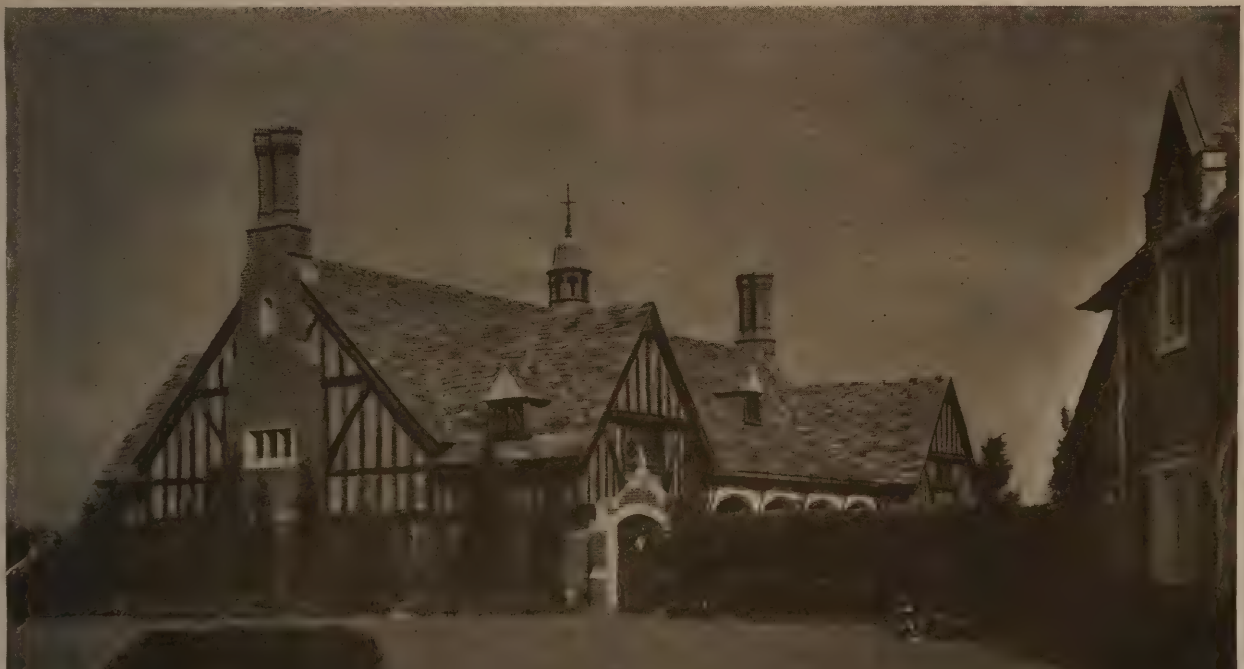


Photo. John Wallace Gillies

GARAGE, FROM GARDEN

HOUSE OF ROBERT LAW, JR., ESQ., PORTCHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

American Church Architecture

By AARON G. ALEXANDER
Of the Office of Hobart B. Upjohn

RECENTLY I heard a statement attributed to a well known architect to the effect that there was no worthy church architecture in America until about 25 years ago. I wonder if that statement is true or even fair. To one who has for some years been intimately connected with church architecture and all the conditions which govern this particular type of building, it seems that it is not true. I believe that if one were to go back to some of the old churches and study them as to their architectural compositions, taking into consideration the conditions of the times when they were built and the number of churches erected during their periods, one would find the average good compared with that of any other type of building. Certainly, when one takes American church architecture, which is essentially Colonial, into consideration, it is easy to find many gems of merit, so many, in fact, that today we are continually referring back to their graceful spires and interiors for inspiration. They were of the meeting house type, but there is no denying that some of them are beautiful and stately. On the other hand, there are many who hold the view that to have the proper sense of dignity and religious character, a church can be only of Gothic design and must be built of stone. The Gothic style is, of course, not that upon which our earliest American architectural traditions are founded, so I believe this statement is made more often by those whose thoughts turn to the richness and beauty of craftsmanship and variety of materials so characteristic of Gothic, rather than to the simple refinement of our early Colonial architecture.

We, as Americans, are perhaps too much given to the habit of looking at a building and considering its materials, expensive stone tracery and leaded glass, costly interiors, furnishings, etc., and then at its general architecture. If we find the building is not a sort of jewel box, with stone walls inlaid with marble or stone trim, with foreign leaded glass and the interiors of carved wood with wrought iron fixtures, we feel like passing it by and hunting for one that is, as I might say, worthy of our attention. In other words, if we see a church building of Gothic design built of brick with wood tracery windows, we are not likely to consider the conditions which caused the architect to adopt these materials, but instead we simply pass on with a remark criticizing him who did such a thing. On the other hand, I believe that any building that is built as a frank, honest effort with the funds available deserves attention. It may be built of materials which are not wholly in keeping with the particular style of architecture, and yet there may be many lines and details that are of interest. I do believe, therefore, that it is safe to say that we have advanced more in church architecture in the past 25 years than our predecessors did in the preceding 25 years, and the reason is simply that we have kept in stride, as it were, with the times. One reason for this is that in the past there were not the same opportunities for studying the old churches abroad nor such facilities for building as we have had in later years.

At the beginning of this article I speak of the conditions besetting an architect in the practice of church architecture, and I might mention what these are:—the funds available; the dictation by committees; and the general feeling in the past on the part of not only the architect but also of the contractor that a church is a poor sort of client, which feeling is invariably productive of poor design as well as poor construction. The most difficult problem an architect has is the designing of a small church, since the funds are generally unequal to the requirements, and even though the design may be rather good, the architect finds it necessary to specify materials that he would not use if he did not absolutely have to.

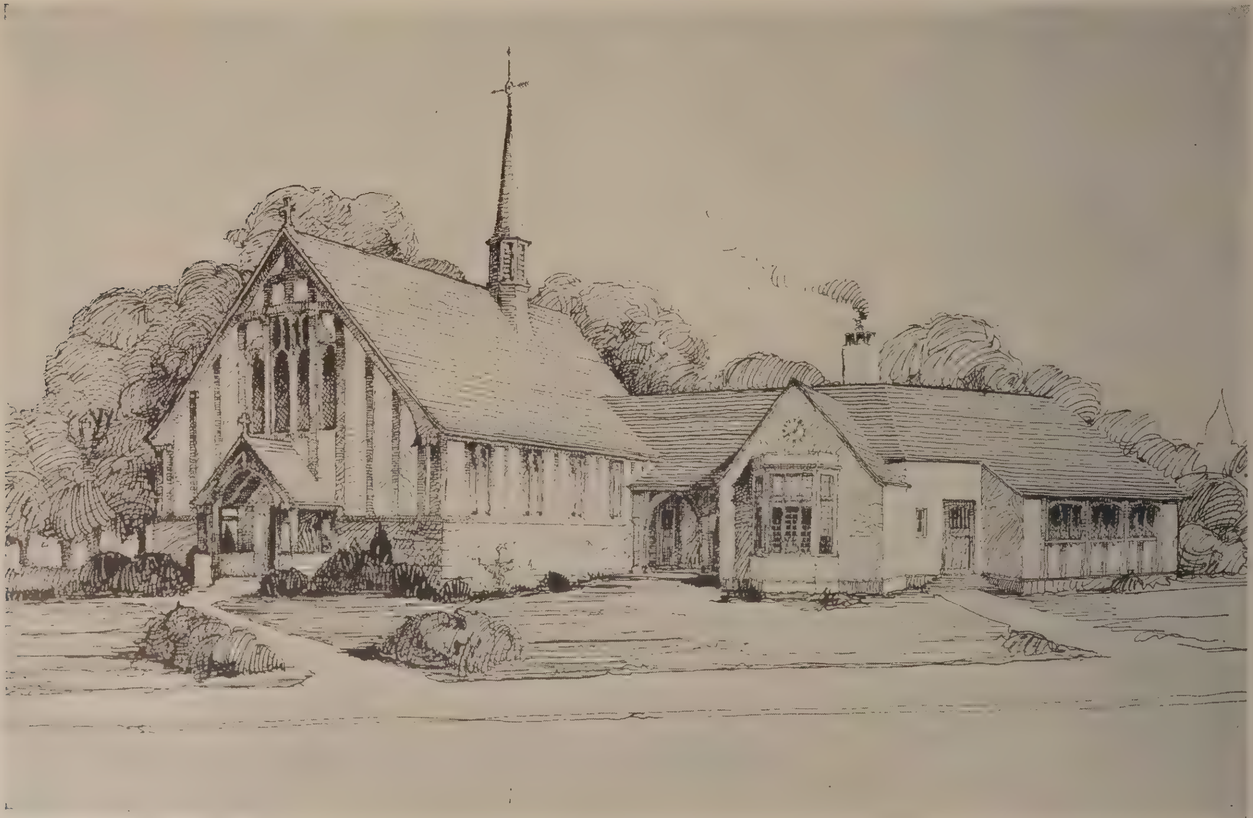
As church architecture has kept pace with the times, we now find the different denominations forming "boards" for the aid of small churches to help raise funds and finance buildings. We read in the press, from time to time, when general assemblies of the clergy are held, that the heads of the denominations deplore the poor average church architecture, and it is interesting to note the reasons that they put forward. Recently I read two addresses by bishops, who, instead of blaming the architects, placed the blame mostly on the fact that the building committees have too much to say as to designs and plans, and they recommend that the committees confine their efforts to financing and to the selection of proper architects. From my experience, I believe that following this advice would be a stride forward.

I do not say this with any sarcasm. It is natural that a man competent to serve on the average building committee should feel that he is quite capable of telling the architect what to do instead of just simply stating requirements. The committees are generally made up of members of the congregation who are intimately connected with, and therefore are thoroughly conversant with, different branches of the church activities, and are for the same reason interested each in only his particular department. One is interested in the Junior Department, another in the church, another in the organ, etc. Considering that committees are made up of such men, one can readily see that an architect has his hands full, and also why I heartily agree with the bishops' statements. Of course, such conditions as these enter into all classes of construction, but more so I believe in church work, because there are more people intimately connected with such a building, and a church is a sort of local community enterprise in which everyone has to be considered. Therefore, it behooves an architect when starting on a church to impress the committee with the fact that he is really familiar with all the different angles and phases of a church plan, and to do this in such a way as to gain the complete confidence of the different members of the committee. Once he has done this, he has half the battle won. If he really is not familiar with all the details, he should seek the advice of the church boards, already referred to, previously to appearing before the committee, or else associate with him an architect who has made a successful specialty of church work. When one considers that a church building is designed and planned in accordance with past history and the development of worship in the particular denomination to which the church belongs, one can readily see that church architecture means not simply cribbing a former plan, but is a matter of studying the history of the church and applying it to the needs of the particular design one is working on.

As to the returns from a church commission, it is true that the remuneration is not as high as that from commercial buildings, but, on the other hand, it is not true that the poor returns are due to nonpayment on account of inability to raise funds. I am finding more and more, as time goes on, that the contractors who in the past have held this view and refused to bid are realizing that times have changed. It is now possible to make a selection from a list of reputable contractors, and to assure the architect of having his ideas carried out as he wants them.

I recall hearing not long ago that a well known architect who had never built a church had been awarded a commission for a Gothic church, although he had always specialized in Colonial architecture of an entirely different class of building. From my experience, I believe it is safe to say that he will do himself more harm with a certain group before he gets through than if he had turned the commission down or else associated with him a fellow architect. I might suggest to this architect that the two books entitled, "American Churches" would be very helpful. They were published in 1915 and cover recommendations on everything that enters into this work.

I am going to devote myself to passing along to my fellow architects some few suggestions as to handling the problem of a church building. First of



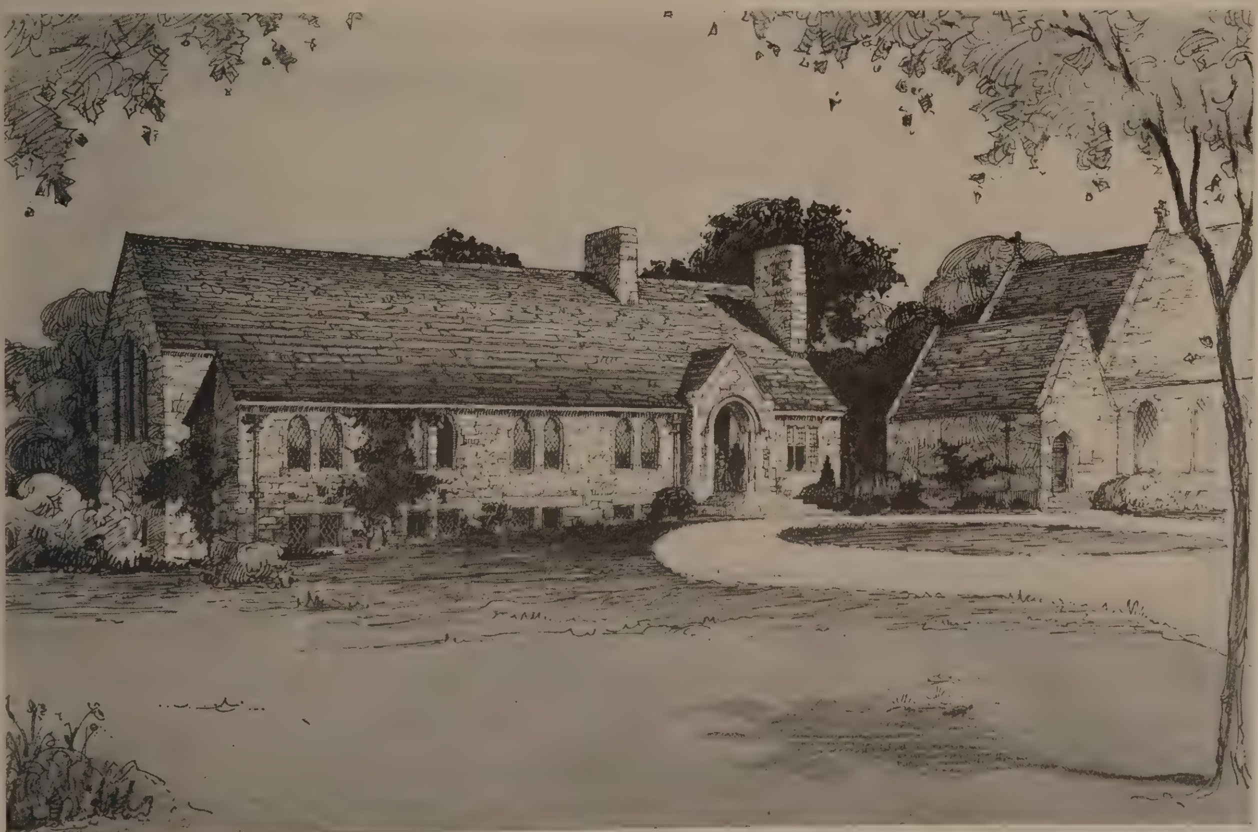
St. Luke's Church, Katonah, N. Y.
Hobart B. Upjohn, Architect

all, the proper recommendation to the committee. Almost all the different denominations have architectural service boards whose heads have drawn up certain recommendations which are always available for the asking, and are often helpful. After absorbing as much of this information as possible, first study the problem not so much on the money side as on the requirement side. Get the average attendance of the church for the past five years, and balance it with possible growth in the new church building. Study the essential requirements of the denomination in question, and ascertain the type of service in use; the number in the choir and the choir's location. In this connection, let me say that probably the most satisfactory arangement is that of the choir stalls at either side of the chancel, with pulpit and reading desk on either side of the chancel arch, and other furniture grouped in the apse in accordance with the demands of the denomination.

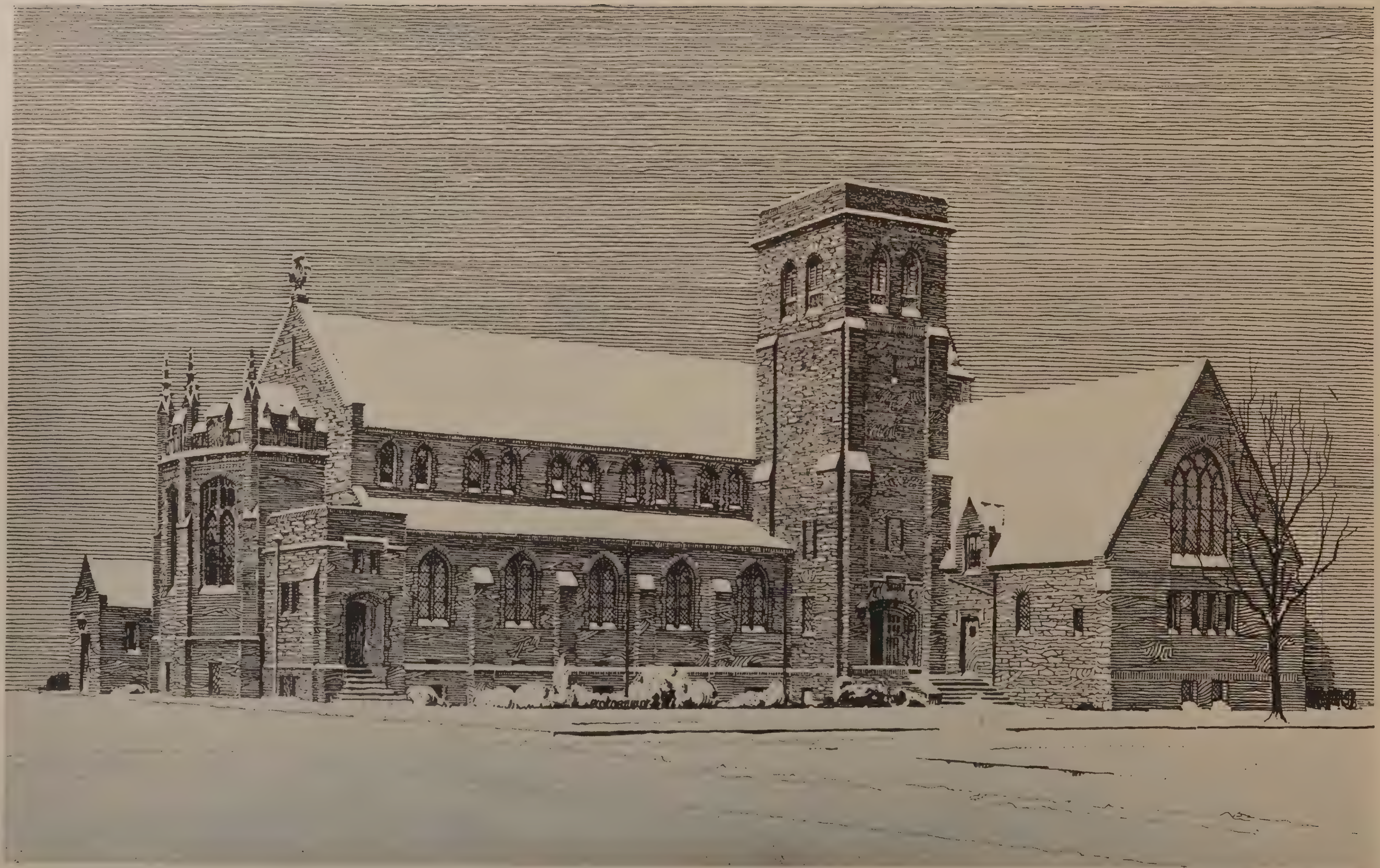
The organ console should be placed in such a position that the organist is screened from view of the congregation, but so that he can see the choir without having to use the old fashioned mirror arrangement. I might say a word here as to the organ. A great many architects believe that an organ can be built to fit into any space, and that the console is about the size of a table. This may all be true for an installation in an existing church, but the organ that is built under such conditions has not as good a tone as it would have had if its design and space requirements had been taken into account originally by the architect of the building. Try to have an organ chamber with a ceiling height of not less than 17 feet, and if that is not feasible, have one dimension of the floor plan that size, the other 9 feet, with the ceiling 12 feet. Avoid "pockets" by giving the organ at least 95 per cent of opening on one side into the auditorium, the opening extending from the floor to as near the ceiling as the architecture of the interior will permit. The organ screen can be designed so that the opening is not apparent to the eye but so that the sound can escape, which is the main thing to consider. The dimensions given apply to the average medium sized organ. The larger the organ, needless to say, the larger the space required. The motor or blower room should be situated in the basement in a dust- and soundproof room and connected to the organ chamber and console with wind pipes and conduits, the correct sizes of which can be obtained from any of the organ manufacturers.

As for the designing of furniture and equipment, this would take more space than could be given it here, so let it suffice to refer again to the books already mentioned. They contain chapters devoted to the pulpit, lectern, pews, altar, etc., and by consulting them, one cannot go far wrong.

When the requirements are determined, the design of the church can be started. There is a growing tendency among the different denominations to favor certain styles, but whatever style the architect adopts, he must employ materials that mean permanence and necessitate the smallest possible upkeep cost. A

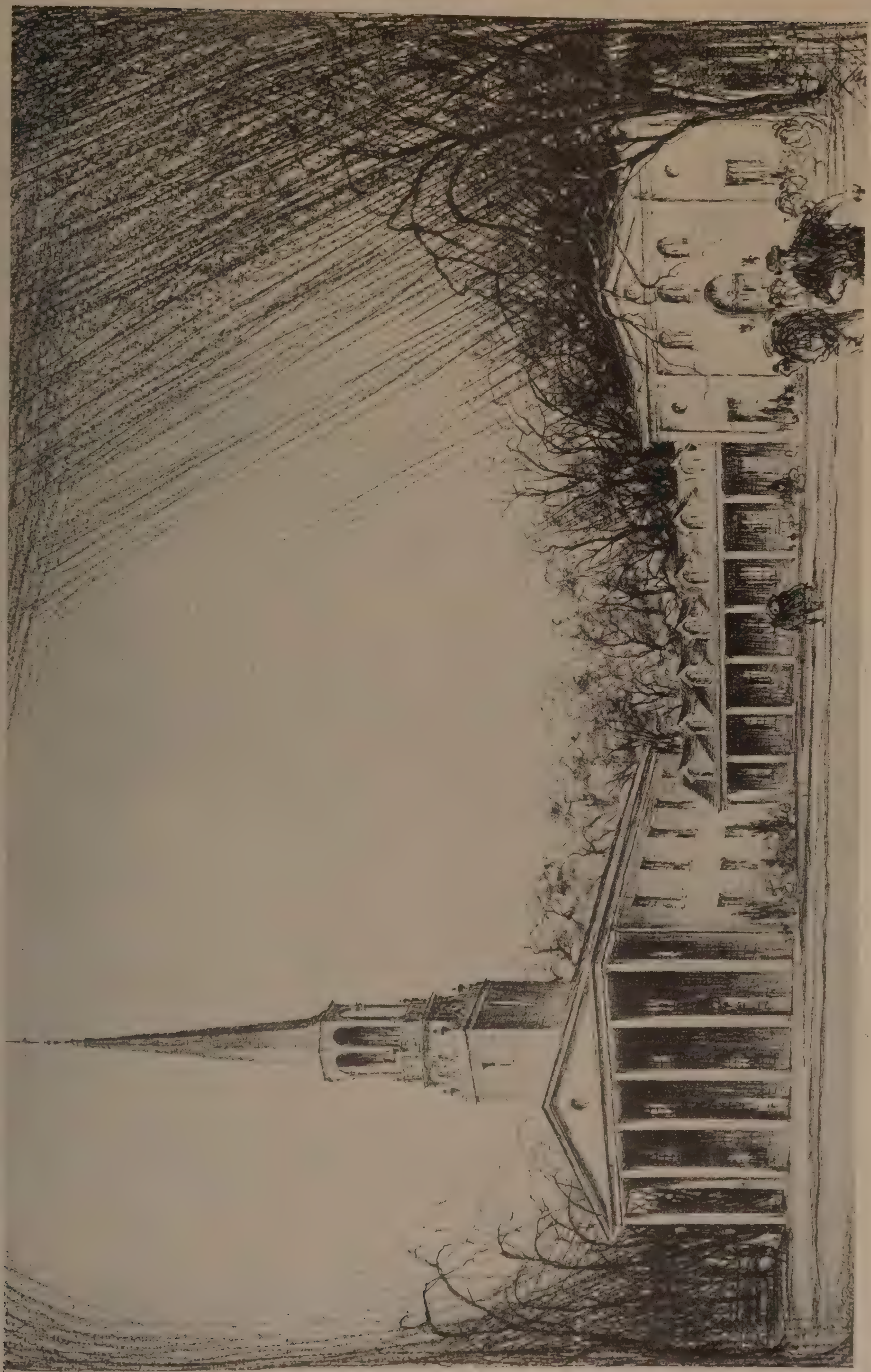


Sunday School Building, Church of St. James the Less, Scarsdale, N. Y.
Hobart B. Upjohn, Architect

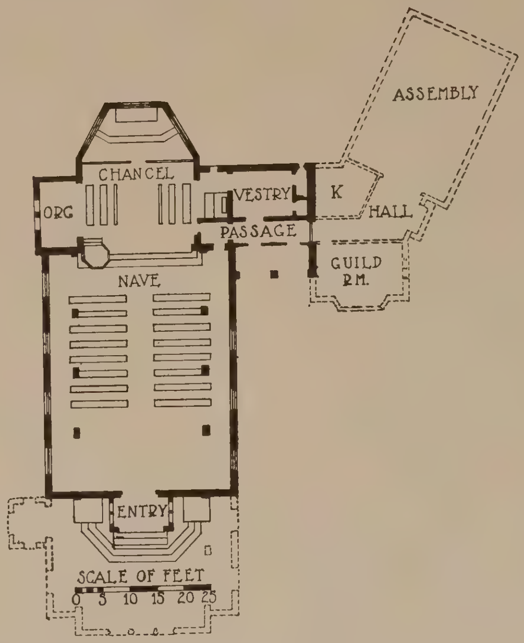


FLATBUSH PRESBYTERIAN CHURCH, BROOKLYN

ALTERATIONS BY HOBART B. UPJOHN, ARCHITECT



PRESBYTERIAN CHURCH, FAYETTEVILLE, N. C.
HOBART B. UPJOHN, ARCHITECT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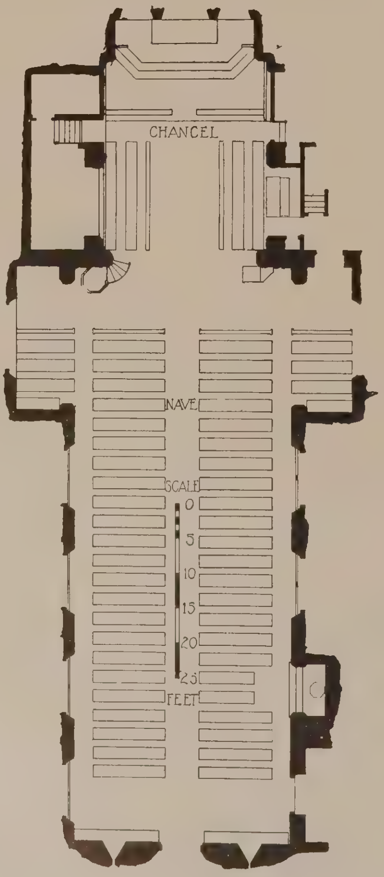
Plan, St. Luke's Church, Katonah, N. Y.

church is not just a building in which to have meetings. It must have dignity, character and permanence as its inherent qualities. The use of masonry in the walls is likely to give these qualities, whereas wooden walls fail to give the same effect and should not be considered unless financial considerations absolutely compel their use. On the other hand, wooden ceilings and exposed rafters add much warmth and charm to a stone or rough plastered interior and are in accordance with the best architectural tradition.

The plan of the church, parish house and Sunday School building should be suited to everyday and departmental use. The old "Akron" plan of small classrooms opening from the main auditorium, separated by folding doors, is a "one-day" or "Sunday" building. Each department should have a separate room, designed with a decorative interior so as to attract members. A department will grow more rapidly under such conditions.

If the funds at hand do not meet the needs, design the building so that it can be added to in the future. Take, for instance, the plans of St. Luke's Church, Katonah, N. Y. This is a small church, designed in a simple English style, with provision for future extension as shown upon the plan by the dotted lines. It was found that the present congregation numbers about 100 and with the new church would number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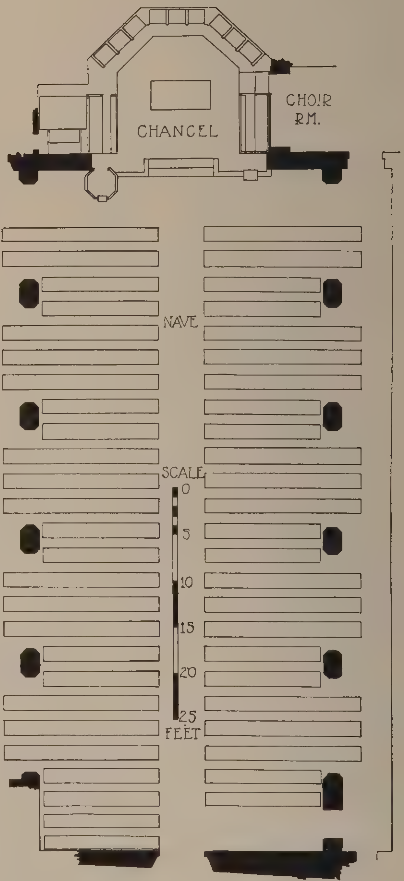
Plan, Chapel of the Cross, Chapel Hill, N. C.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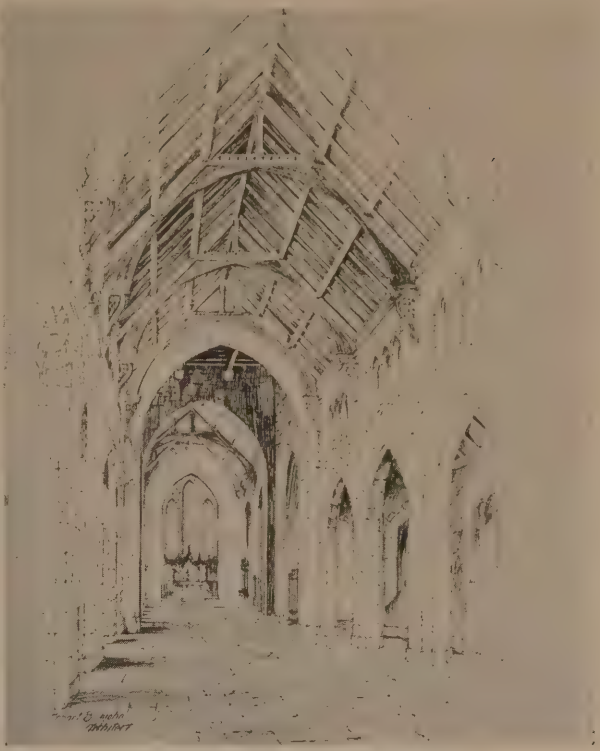
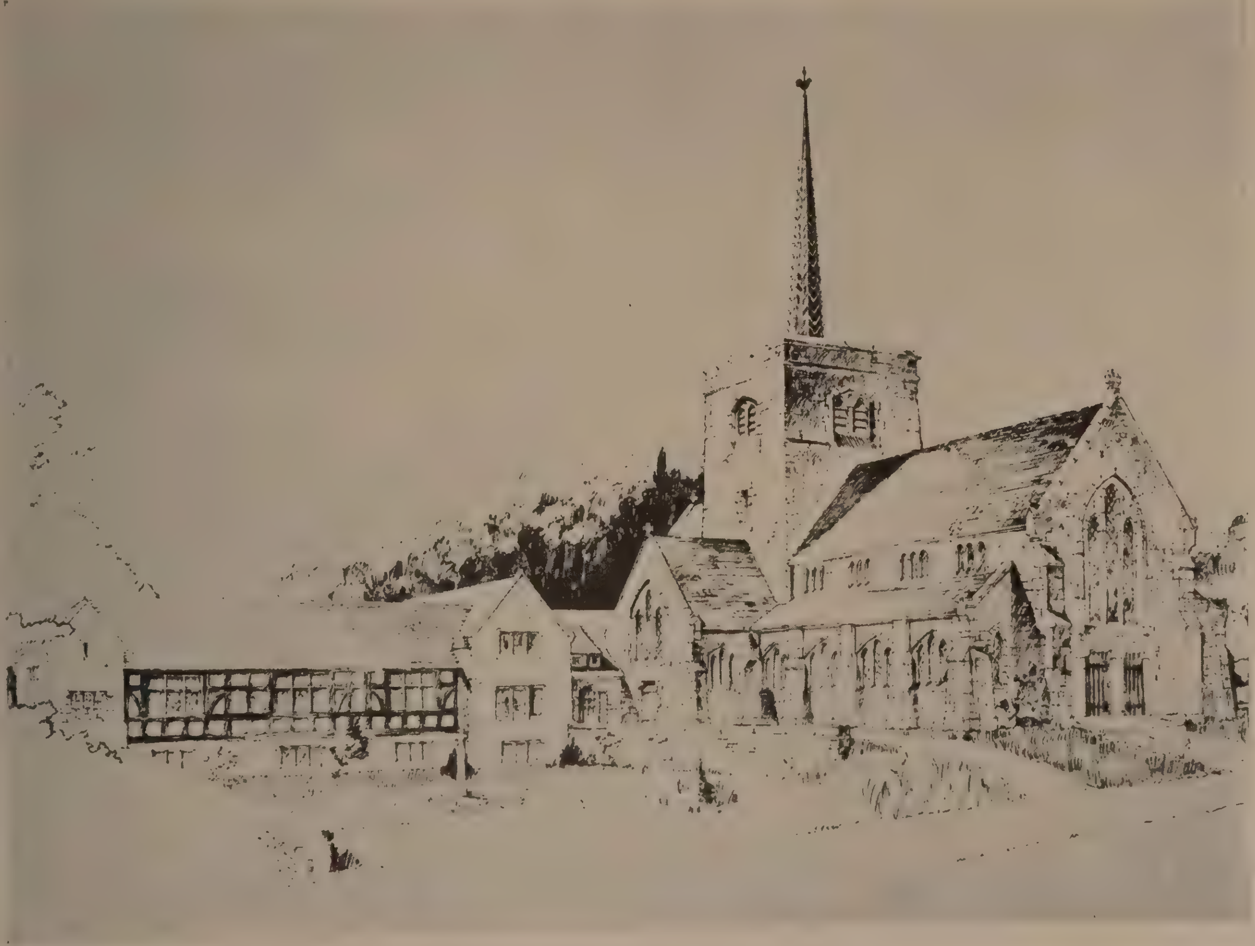
Plan, Flatbush Presbyterian Church

150, and in the next five years it will undoubtedly increase to 250, since the community is growing. Additional seating is to be taken care of by simply extending the present front wall and adding two bays to the length of the nave. The dotted lines on the plans of the parish house adjoining indicate the future additions to the Sunday School rooms. The building is planned on the basis of seating 150, and is a complete, temporary unit, but the committee knows how to take care of the future without having to build some sort of a "bump" out on the side. Additional seating can often be provided in a balcony, but as this means a higher building and therefore more cubage, it is not especially feasible where the saving of costs is important. This church at Katonah was erected in 1922, and is of field stone up to the water-table, with the rest of the walls of timber and stucco in half-timber patterns. A comparison of this church with the Sunday School building of the Church of St. James the Less, at Scarsdale, N. Y., will illustrate readily the point about dignity and permanence made here. The boiler room of the church at Katonah is placed under the chancel, which position saved in the excavating, owing to the extra headroom necessary to raise in the chancel floor above that of the nave. The cost of general construction at Katonah, exclusive of furniture, was



Nave, Holy Trinity Church



Holy Trinity Church, Greensboro, N. C.
Hobart B. Upjohn, Architect

39 cents a cubic foot. The church is fortunate in being able to meet its present requirements and in knowing that it can enlarge the church and parish house without in any way injuring their harmony.

Alterations and additions to existing buildings are other things that the architect must continually consider. One difficult part of this is the matter of quoting an intelligent price for such work. The only sure way in the case of additions and alterations is to obtain a preliminary estimate from a reputable contractor. The cost of the new part can be figured on the cubage. The Flatbush Presbyterian Church, Brooklyn, which is illustrated here, is a case in point. The main church building and tower are new, but the part at the right is the old church which was turned into a Sunday School building. These alterations consisted of the installing of a second floor in the old church auditorium and dividing the space into classrooms, and the cost of this was about a fifth of the total contract for the enlargement and new building. The main church is constructed with stone walls, imitation stone trim, slate roof, oak trim inside, with stone arches and cypress ceiling in nave. The gymnasium with stage, locker and shower rooms, and the kitchen adjoining are situated in the basement under the main church. Although a Presbyterian church, the chancel is laid out on much the plan common in Episcopal churches, with pulpit, lectern, etc. The church building was built in 1923 at approximately 45 cents per cubic foot, exclusive of furniture or the many varieties of equipment necessary.

Taking up a different style of architecture, the Colonial, we find that, for reasons of general construction, this type of building can be usually built more economically, say, from five to ten cents per cubic foot less than the costs of the churches already described. In writing these paragraphs I have merely scratched the surface, in the hope that I may, in a way, bring to the attention of some architects the problems that church architecture entails. As a help to some in quoting to a committee the cost of a building, I believe one can safely count on these cubic foot costs, exclusive of furniture and equipment:

A small, simply designed English type church, 35 to 40 cents a cubic foot.

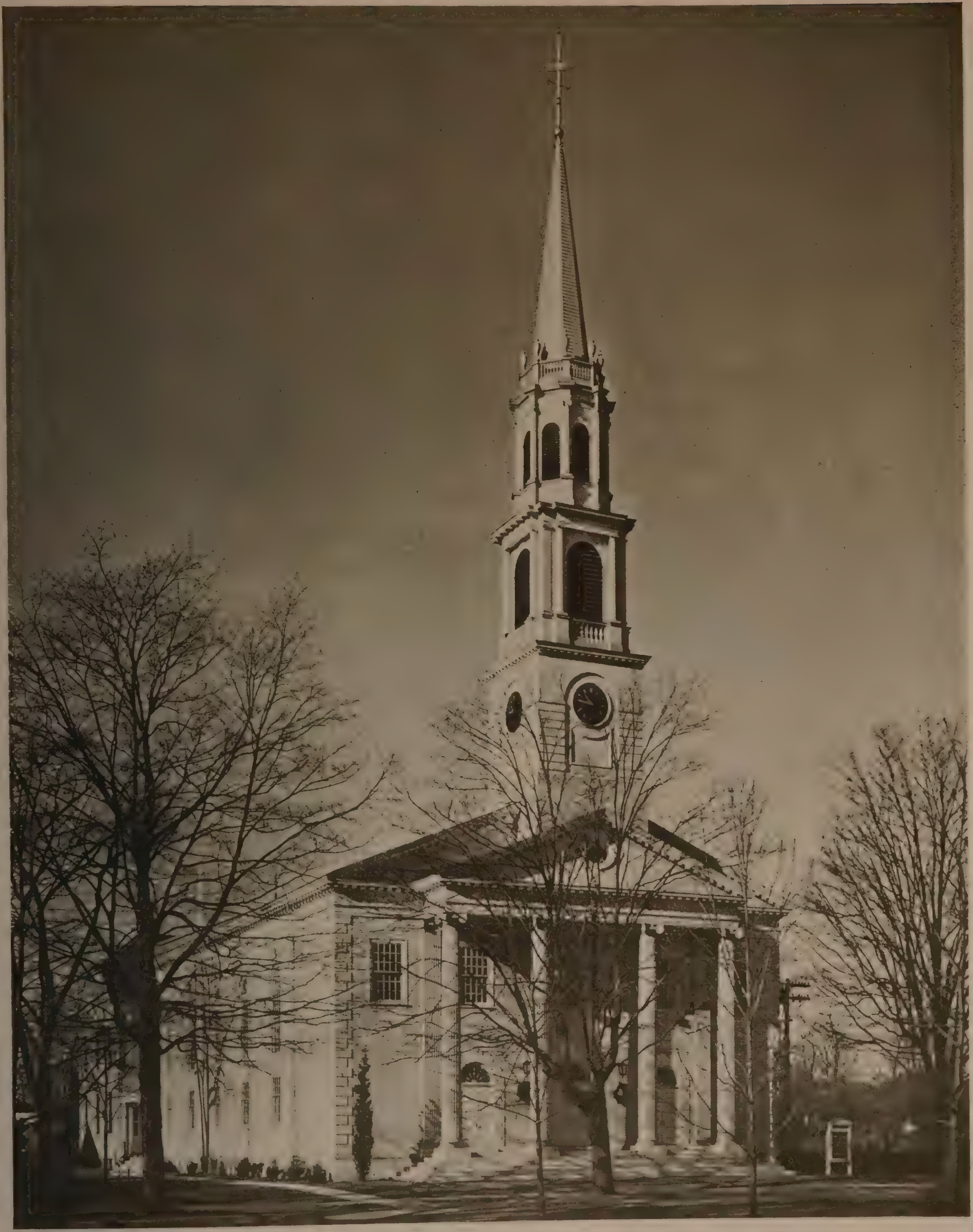
A Gothic church, with stone walls and stone trim, 47 to 50 cents a cubic foot.

A simple Colonial building, 40 to 45 cents a foot.

A more pretentious Colonial design, 42 to 48 cents a cubic foot.

Use is frequently made of the so-called Colonial style, indeed, wholly because of its economy. Detail may be properly developed in wood rather than in real or artificial stone, likely to be considered necessary in using Gothic forms; then too the very simplicity of design and plan which characterizes a Colonial building is well suited to certain surroundings. It is a type which is flexible and easily handled.

Sunday School Building, Church of St. James the Less, Scarsdale, N. Y.
Hobart B. Upjohn, Architect



Photos. Kenneth Clark

FIRST CONGREGATIONAL CHURCH, NORWALK, CONN.

CHARLES C. GRANT AND JERAULD DAHLER, ARCHITECTS

AMONG several splendid examples of churches in the Colonial style built within the last two years, there is none which surpasses in charm and refinement of detail as well as excellence of scale and composition, the First Congregational Church on the Green at Norwalk, Conn. A little circular published at the time it was proposed to build a new church to replace the old First Congregational Meeting House of Norwalk, says that the new church structure is to be in keeping with the best traditions of the Con-

FORUM SPECIFICATION AND DATA SHEET—104

First Congregational Church, Norwalk, Conn.; Charles C. Grant & Jerauld Dahler, Architects

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:
Fireproof. Steel trusses, floor beams, and tower frame. Hollow tile and brick walls. Reinforced concrete floor slabs.

EXTERIOR MATERIALS:
Clapboards; wood trim.

ROOF:
Slate.

WINDOWS:
Double-hung, wood. Tinted glass.

FLOORS:
Cork tile on concrete.

HEATING:
Recirculated hot air.

ELECTRICAL EQUIPMENT:
Concealed, cove lighting in auditorium.

INTERIOR MILL WORK:
White wood, painted. Doors, mahogany.

INTERIOR WALL FINISH:
Paint.

DECORATIVE TREATMENT:
Paneled walls; run plaster moulds.

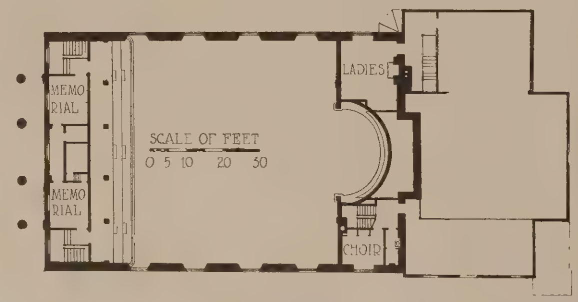
SEATING CAPACITY:
About 520.

APPROXIMATE CUBIC FOOTAGE:
356,500.

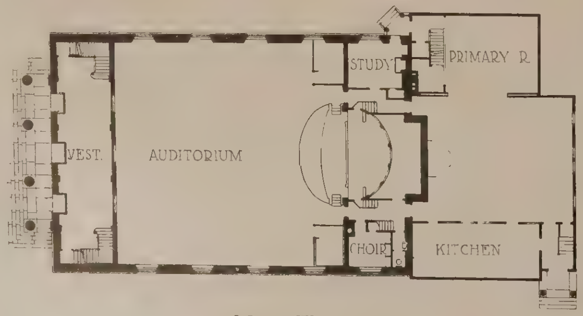
COST PER CUBIC FOOT:
Approximately 45 cents.

DATE OF COMPLETION:
April, 1925.

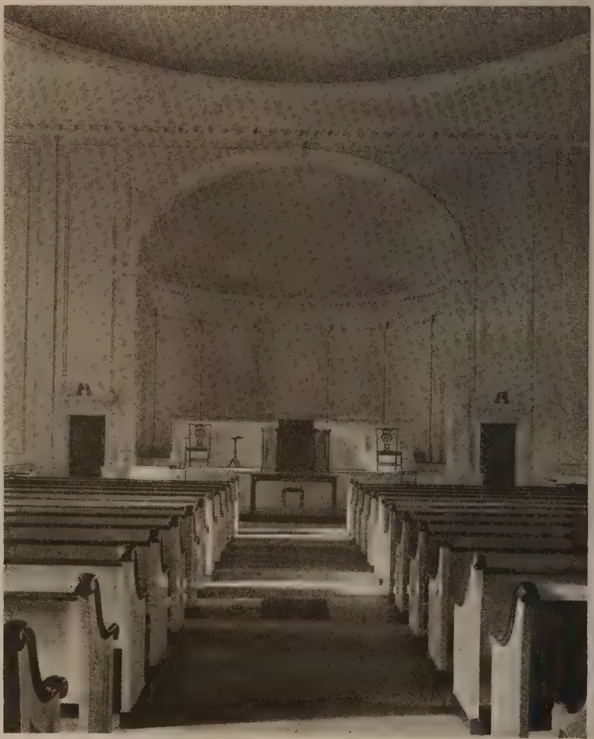
gregational Church; that the Ionic portico and slender, graceful spire are to follow precedents established by the best examples of Colonial churches in New England, and that the portico with its white marble platform and steps is to shelter three main entrance doors opening into a spacious vestibule 15 feet wide by 40 feet long, with a stairway at each end leading to the gallery across the end of the main auditorium; that three large glass doors will lead from the vestibule into the main auditorium, a room 62 feet square, with a seating capacity of 420 on the main floor and 180 in the galleries, making a total of 600 sittings; that the interior architecture of the auditorium will be designed after the best types of old churches of the colonial period; that a wide, spreading, elliptical arch will frame the pulpit platform and apse-like chancel, back of which will be the low choir gallery and organ console; that directly back of this chancel, but concealed from view, will be the organ itself; that choir rooms, a pastor's study, a women's parlor and rest room and a memorial room over the entrance vestibule will complete the plan of the church; that the building will be of reinforced concrete and brick, with the exterior masonry walls covered with clapboards in order to produce the desired Colonial effect of a white painted wooden meeting house. All of these provisions of the original program for rebuilding have been carried out.



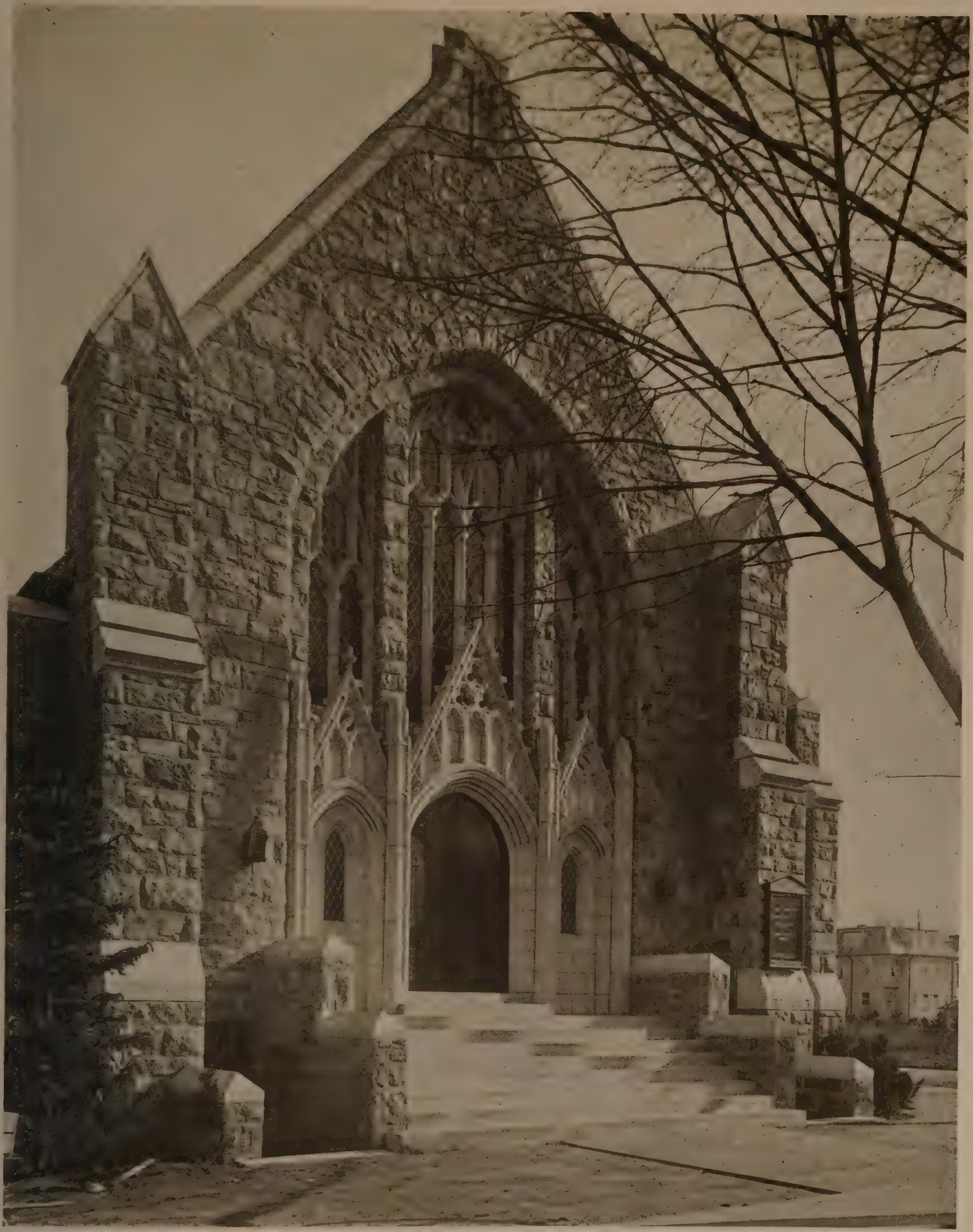
Second Floor



Main Floor



Interior, Norwalk Congregational Church



Photos. George H. Van Anda

ST. MATTHEW'S LUTHERAN CHURCH, WHITE PLAINS, N. Y.

W. J. CHERRY and H. E. MATZ, ARCHITECTS

BUILT of rough stone laid up with irregular joints, the exterior of this church possesses a roughness of texture perhaps a little inconsistent with the refinement of detail shown in the cast stone Gothic detail of the entrance door and the tracery of the window above. A treatment of the entrance door and window somewhat more rugged in character would have given greater consistency to the exterior design. The plan shows a long nave, the walls of which are divided into six bays by heavy

FORUM SPECIFICATION AND DATA SHEET—105

St. Matthew's Lutheran Church, White Plains, N. Y.; W. J. Cherry and H. E. Matz, Architects

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:
Stone.

EXTERIOR MATERIALS:
Stone.

ROOF:
Slate.

WINDOWS:
Cast stone.

FLOORS:
Cork and rubber.

HEATING:
Steam.

PLUMBING:
Open fixtures.

ELECTRICAL EQUIPMENT:
Lighting.

INTERIOR MILL WORK:
Cypress.

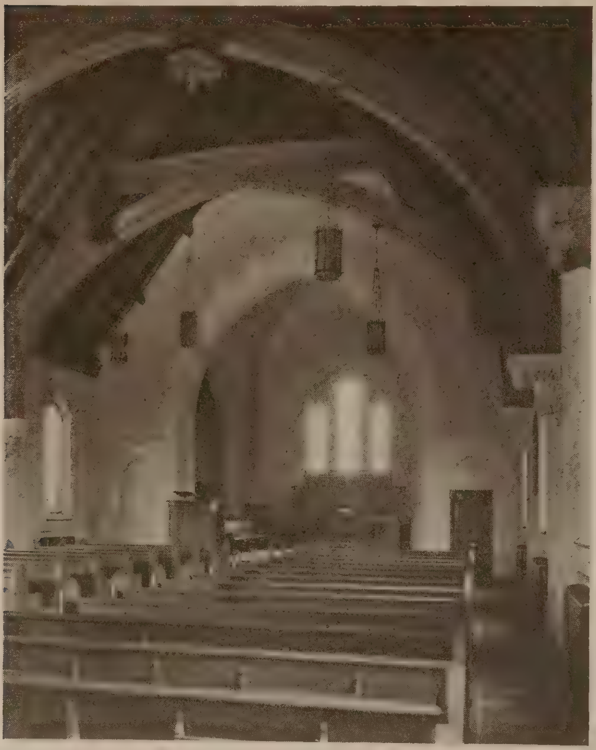
INTERIOR WALL FINISH:
Plaster,

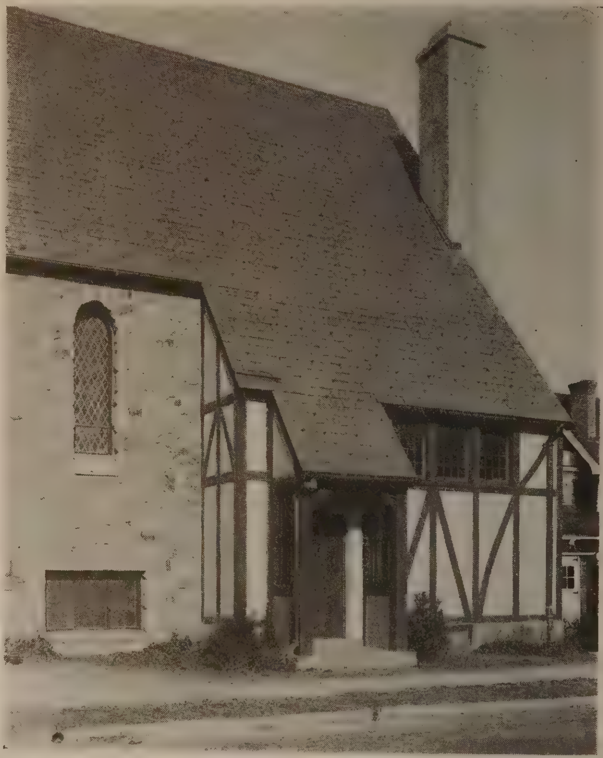
SEATING CAPACITY:
450.

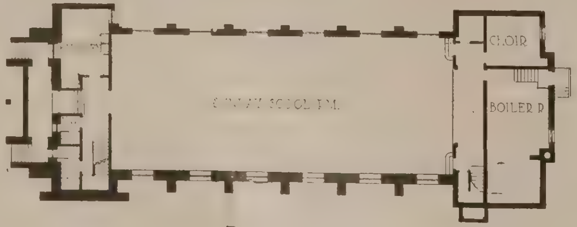
COST OF BUILDING:
$75,000.

DATE OF COMPLETION:
June, 1925.

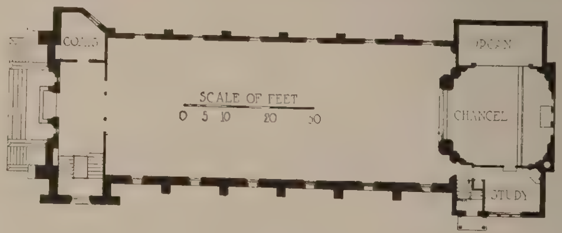
roof timbers supported on massive carved wall brackets. The side entrance and the exterior of the minister's study show a consistent and successful use of half-timber, stucco and brick, in contrast to the rough stone main walls of the church. It is rather unfortunate that the use of the basement for the Sunday School necessitates the introduction of the wide, low windows in the bays of the nave. These windows are not in harmony or in scale with the graceful lancet windows but are, of course, necessary.


Interior Looking East

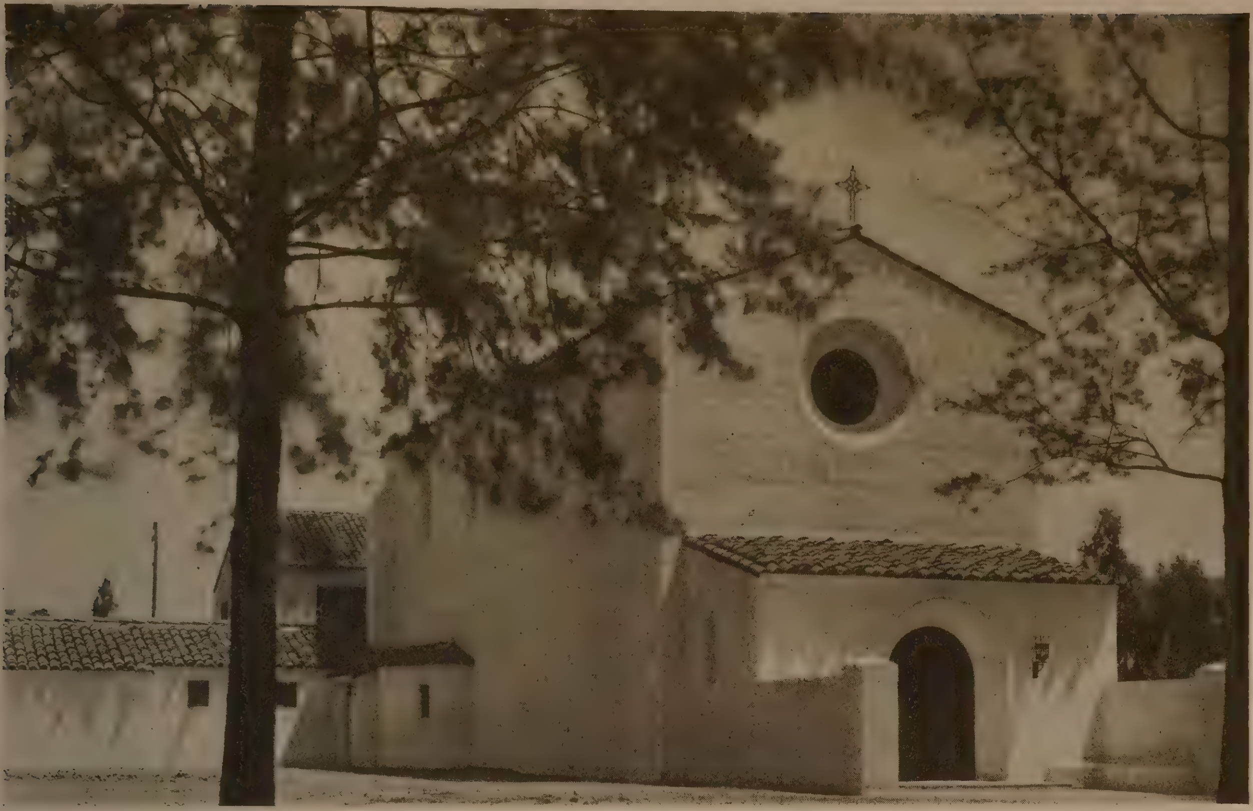

Study Entrance



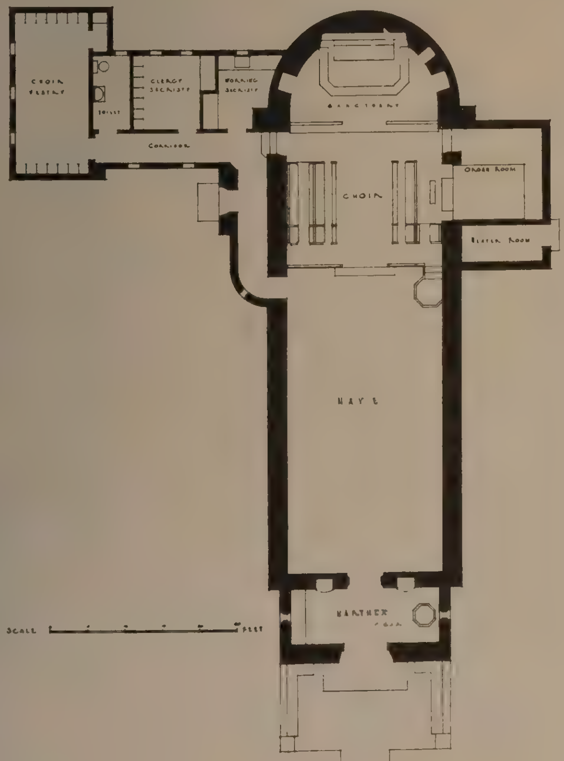
Basement



Main Floor



ALL SAINTS' CHURCH, BEVERLY HILLS, CALIF.
ROLAND E. COATE, ARCHITECT



Main Floor

THAT it is possible to be original in the free handling and adaptation of a particular style of architecture without being bizarre or exotic is evidenced by this unique but excellent piece of architectural design. There is unusually fine scale as well as simplicity shown in both the exterior and interior of this adaptation of the Spanish Renaissance style. The narrow arched windows, located high in the exterior walls, and the simple round window in the west front, suggesting a simplification of the typical Gothic windows, are so well spaced and well proportioned that it is possible to give a pleasing importance to the wall surfaces themselves. The importance of the height and the scale of the walls enclosing the nave or auditorium is strongly emphasized by the low tile-roofed entrance porch and wing. The plan is exceedingly simple and direct. An unusually long, narrow nave, terminating in a semi-circular sanctuary, together with the space set apart for the choir, occupies over a third of the interior of the church. On one side of the choir is a good sized organ room and a small heater room, while on the opposite side a narrow passageway connects the nave and the choir with a side entrance to the church and the corridor or cloister leading to the various rooms used by the choir and clergy. In the entrance vestibule, or narthex a simple but massive font with ornamental wrought iron cover is located. Although simple in character, every detail of this church is designed with the utmost care and consideration for scale and style. Stained to imitate Italian walnut, all the details of

FORUM SPECIFICATION AND DATA SHEET—106

All Saints' Church, Beverly Hills, Calif., Roland E. Coate, Architect

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:
Reinforced hollow concrete.

EXTERIOR MATERIALS:
Whitewashed concrete.

ROOF:
Hand-made Mexican tile.

WINDOWS:
No sash in church proper; sash in vestry.

FLOORS:
Tiles.

HEATING:
Hot air, forced system.

ELECTRICAL EQUIPMENT:
Lighting.

INTERIOR WALL FINISH:
Whitewashed concrete.

SEATING CAPACITY:
Approximately 120.

APPROXIMATE CUBIC FOOTAGE:
74,800.

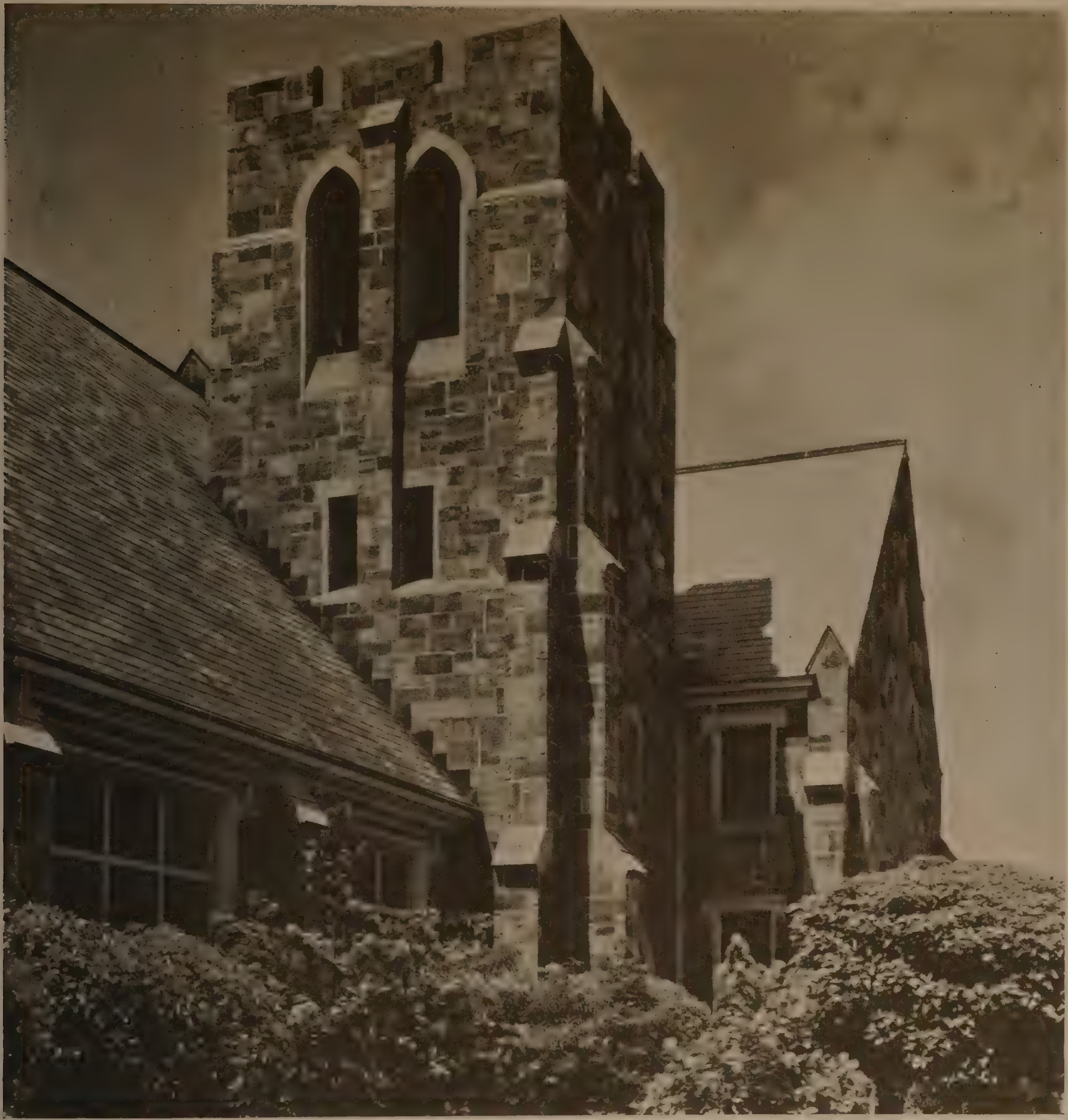
COST PER CUBIC FOOT:
24 cents, not including furniture.

DATE OF COMPLETION:
May, 1925.

church furniture, such as the pulpit, choir stalls, sanctuary seats and chancel rails, are original and interesting in design on account of the manner in which they indicate a free adaptation of Spanish detail. The use of long wall hangings back of the choir stalls and covering the entire west end of the nave is effective from an artistic point of view, and serviceable from a practical consideration, as they have a very definite use in improving the acoustic properties of the church. Such height and extent of hard plaster walls uncovered by tapestries or hangings are not favorable to the best acoustic conditions. The rich tones of these hangings are repeated in the dark stained wooden girders and rafter beams of the roof, giving the proper balance of light and dark to the interior design. It is rare to find a church, large or small, designed, built and furnished with such judgment, taste and regard for architectural tradition.

Choir and Sanctuary

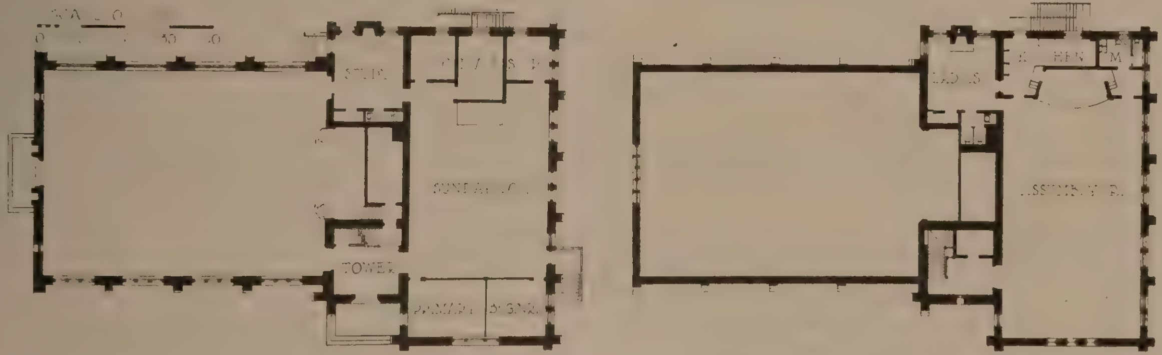
Choir and Nave



Photos. Tebbs & Knell, Inc.

CHURCH OF THE COVENANT, WILMINGTON, N. C.

KENNETH M. MURCHISON, and GAUSE & LYNCH, ASSOCIATED ARCHITECTS



Main Floor

Second Floor

FORUM SPECIFICATION AND DATA SHEET—107

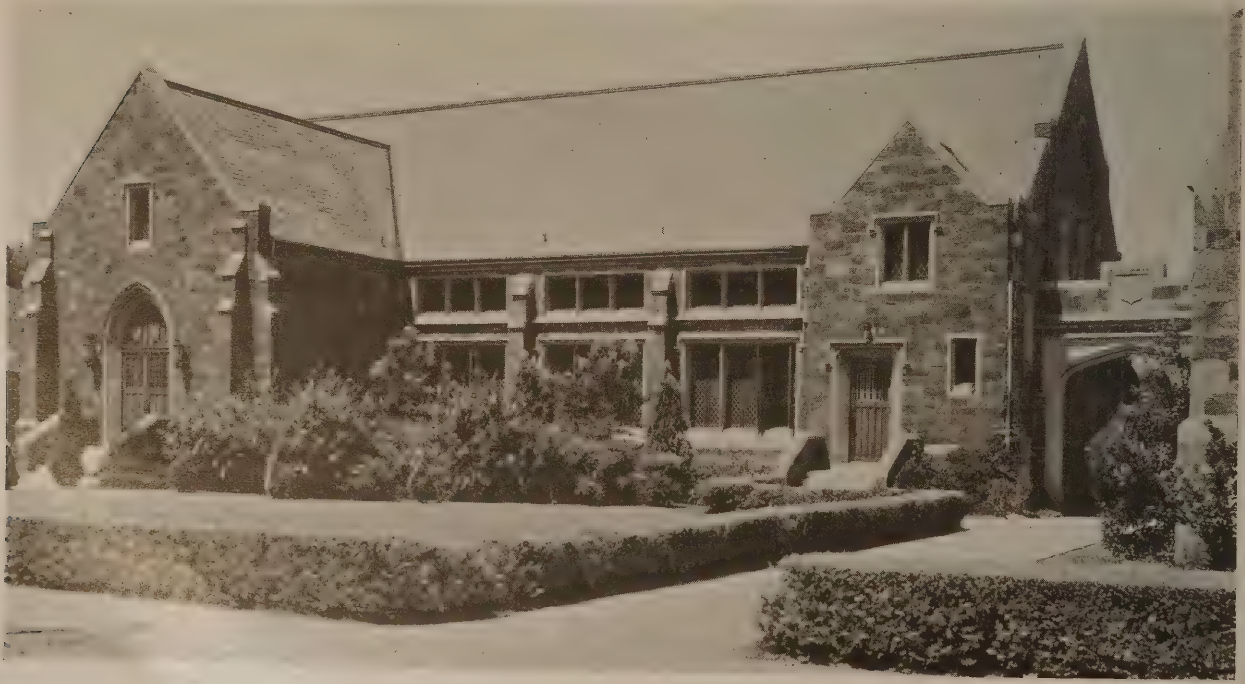
Church of the Covenant, Wilmington, N. C.; Kenneth M. Murchison, and Gause & Lynch, Associated Architects

OUTLINE SPECIFICATIONS

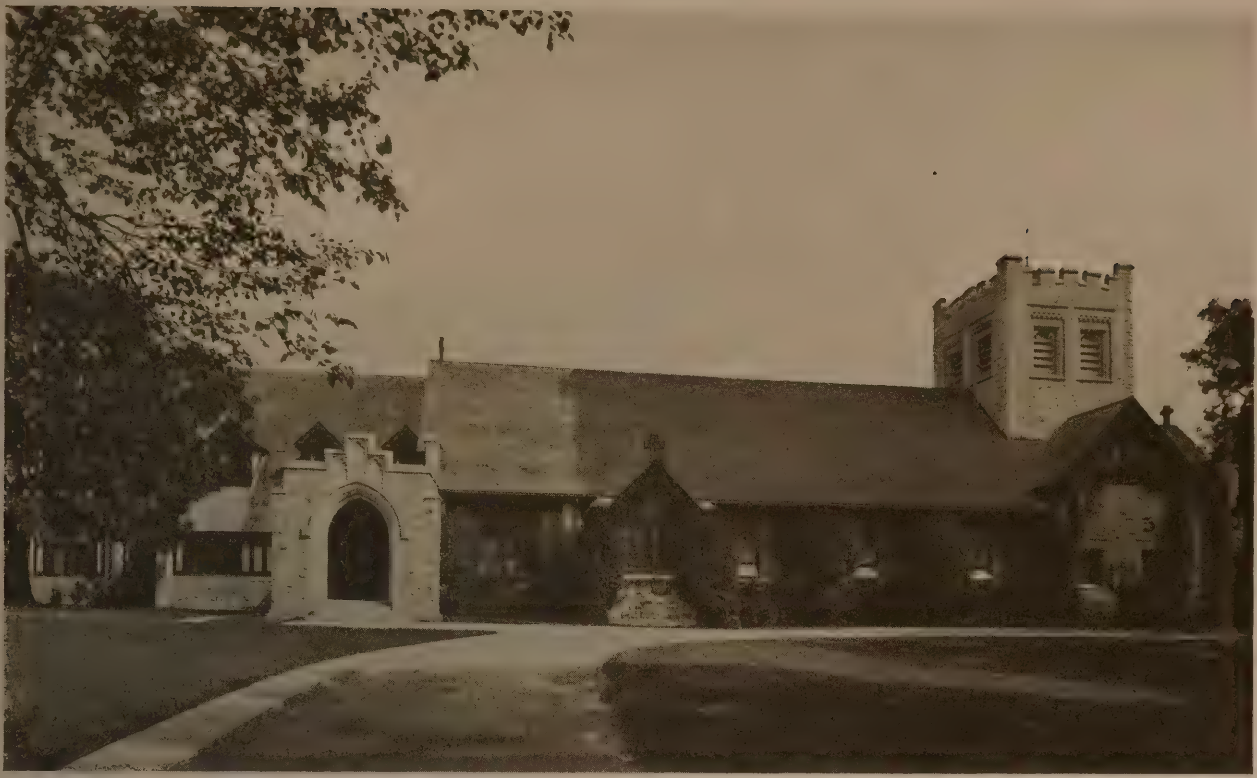
GENERAL CONSTRUCTION:
Masonry walls, frame structure.
EXTERIOR MATERIALS:
Seam-faced granite.
ROOF:
Slate.
WINDOWS:
Leaded glass.
FLOORS:
Pine.
HEATING:
Hot air.
PLUMBING:
Cast iron pipe, and fittings with back ventilation.
ELECTRICAL EQUIPMENT:
Cable with outlets for lights, receptacles and switches.
INTERIOR MILL WORK:
Oak.
INTERIOR WALL FINISH:
Caen stone plaster.
DECORATIVE TREATMENT:
Gothic; oak screen on platform.
SEATING CAPACITY:
Main auditorium, 400.
DATE OF COMPLETION:
About June, 1917.

AS an example of simple adaptation of the English parish church, this building at Wilmington is excellent. The seam-faced granite, varying sufficiently in color to obviate all monotony of color and texture, makes a most attractive material for this English type of small church. The interior plan of the building, which includes not only the church auditorium but also rooms for the Sunday School and a large assembly room above, is clearly indicated in the exterior design of the building. The wing of the building occupied by the Sunday School and assembly room is placed at right angles to the church auditorium, the low square bell tower pleasantly breaking the angle between these two parts of the building. The steep roofs are covered with slates of varying shades which harmonize pleasantly with the color of the stone walls. Limestone is used for the trim, window and door details. The latter show simple Gothic mouldings and treatment in keeping with the general style of the building. The windows of the church auditorium show flat tops and are of sufficient width to well light the interior.

Although not indicated on the plans shown here, a large parish house, designed in a simple Gothic style similar to that used in the church itself, is connected with it by an archway on the side of the church occupied by the minister's study and women's room above. A driveway from the street leads across the churchyard through this archway, making it possible for wedding and baptismal parties to enter through the side door leading into the minister's study. The plan of the church building shows pleasing balance.



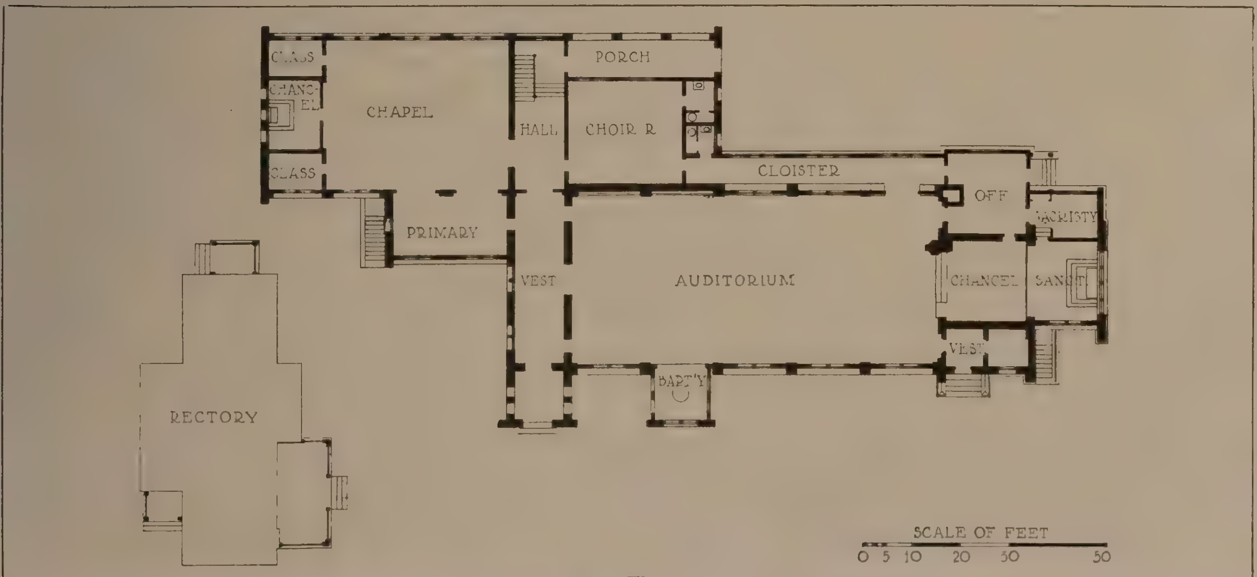
Parish House, Church of the Covenant



CHURCH OF THE HOLY SPIRIT, LAKE FOREST, ILL.
GRANGER & BOLLENBACHER, ARCHITECTS

IN this small church at Lake Forest a suggestion of the English parish church is found in the low square tower above the choir and the long, unbroken lines of the roof. Suggestive of the cruciform plan, small gable-roofed bays break the length of the church like short transepts at the point where the tower rises above the main roof. At one side, and parallel to the church, is a large parish house containing Sunday School rooms and an auditorium. This building, like the church itself, is constructed of rough-finished stone laid up random with irregular joints. Half-timber and stucco have been introduced in the gable ends of the church and parish building, and also in the panels between the first- and second-story windows of the parish house. In design both of these buildings show a very free use of English parish church precedent. The effect of the whole composition is pleasing on account of its long, low lines.

The interior architecture of the church is less restful than the exterior, largely on account of the sharp contrast between the light plaster surfaces and the dark toned brick piers and dark stained roof timbers


CLASS
CHANCEL
CLASS
CHAPEL
HALL
PORCH
CHOIR R.
CLOISTER
OFF
SACRISTY
PRIMARY
VEST
AUDITORIUM
CHANCEL
SANCT
VEST
BAPT'Y
RECTORY
SCALE OF FEET
0 5 10 20 30 50

Main Floor

FORUM SEPECIFICATION AND DATA SHEET—108

Church of the Holy Spirit, Lake Forest, Ill.; Granger & Bollenbacher, Architects

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:
Masonry walls, wood floor; roof construction, non-fireproof.

EXTERIOR MATERIALS:
Limestone.

ROOF:
Slate.

WINDOWS:
Wood casements.

FLOORS:
Wood, tile and slate.

HEATING:
Steam, oil burner.

PLUMBING:
Open fixtures.

ELECTRICAL EQUIPMENT:
Usual conduit wiring.

INTERIOR MILL WORK:
Oak.

INTERIOR WALL FINISH:
Sand-finished plaster.

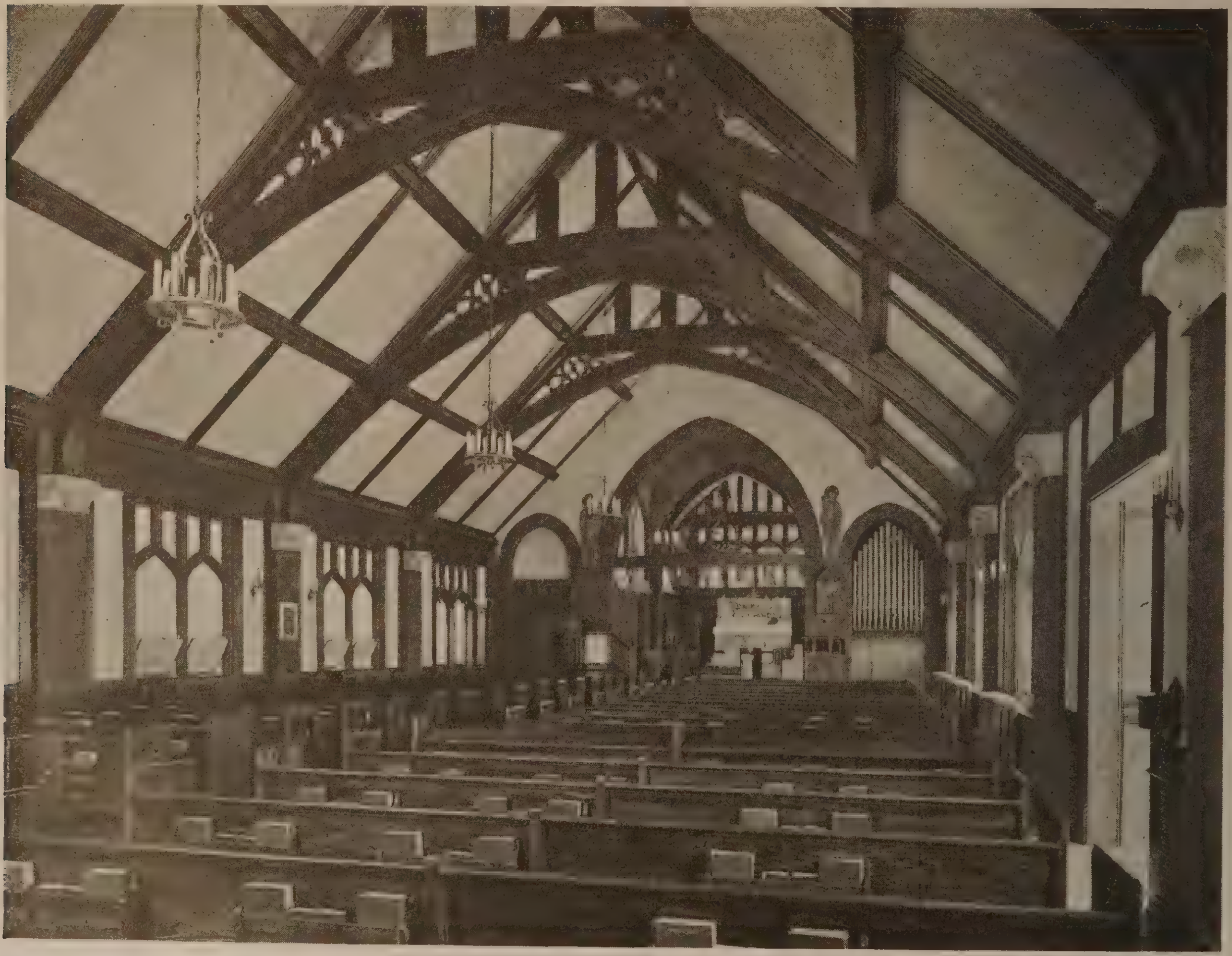
DECORATIVE TREATMENT:
Stained woodwork.

SEATING CAPACITY:
About 350.

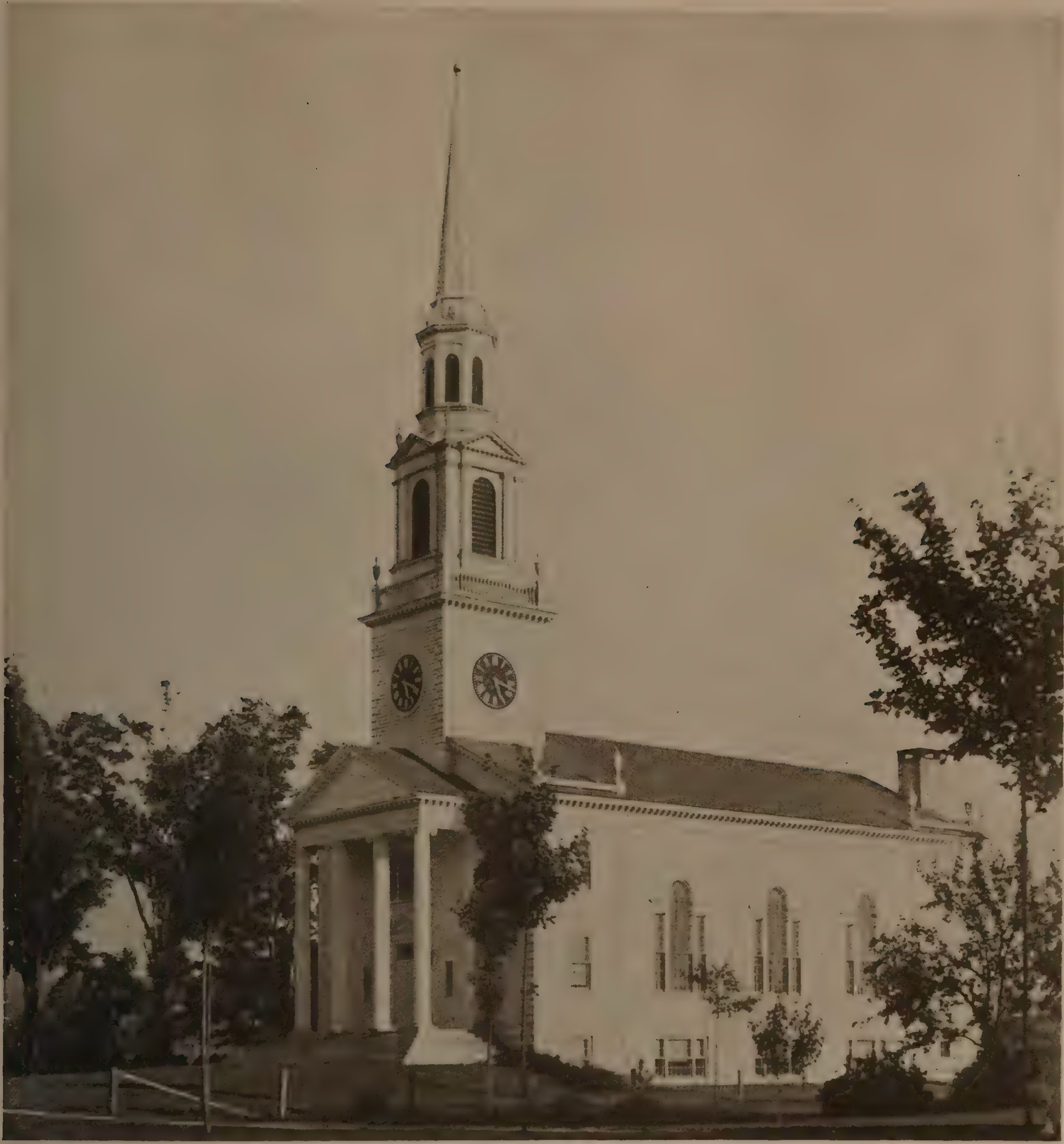
COST:
Parish House cost $69,000.

DATE OF COMPLETION:
Parish house completed June 1, 1925.

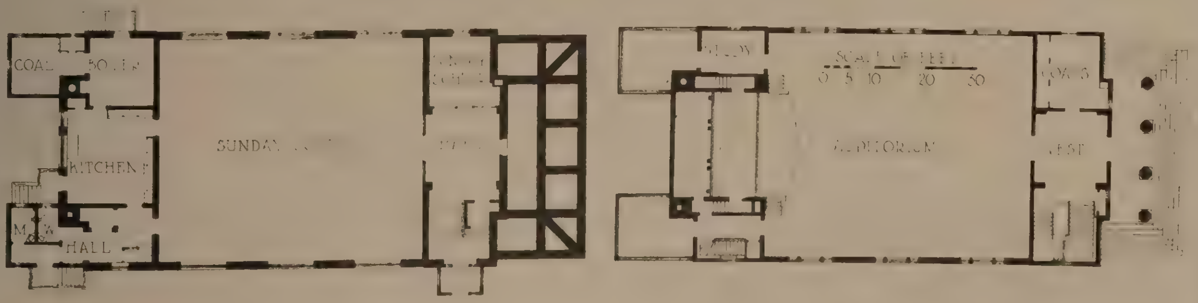
and rafters. Even the brick arches of the east wall stand out conspicuously against the light toned plaster walls above them. The placing of the tower between the sanctuary and the nave of the church gives added depth and importance to the choir itself. This division is emphasized by the heavy rood beam with its cross between the nave and choir. The general proportions of the interior as shown in the relations between the length, the width and the height of the nave, extending as it does up to the peak of the roof, with rafters and girders largely exposed to view, are successful and pleasing as well as appropriate.



Interior, Church of the Holy Spirit



ELLINGTON CONGREGATIONAL CHURCH, ELLINGTON, CONN.
CLARK & ARMS, ARCHITECTS


COAL
BOILER
KITCHEN
M
W
HALL
SUNDAY
SCALE OF FEET
0 5 10 20 30
AUDITORIUM
VEST

Basement

Main Floor

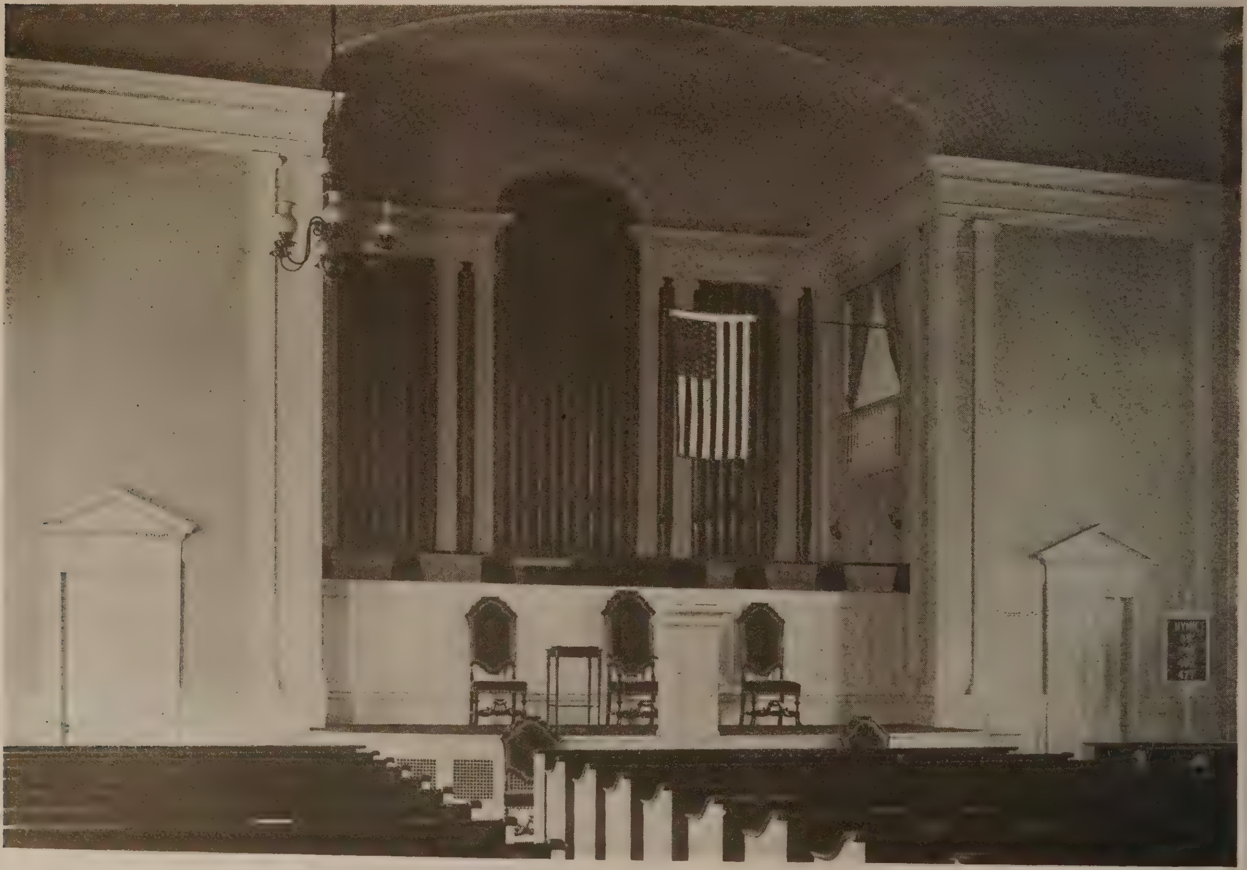
FORUM SPECIFICATION AND DATA SHEET—109

Ellington Congregational Church, Ellington, Conn., Clark & Arms, Architects

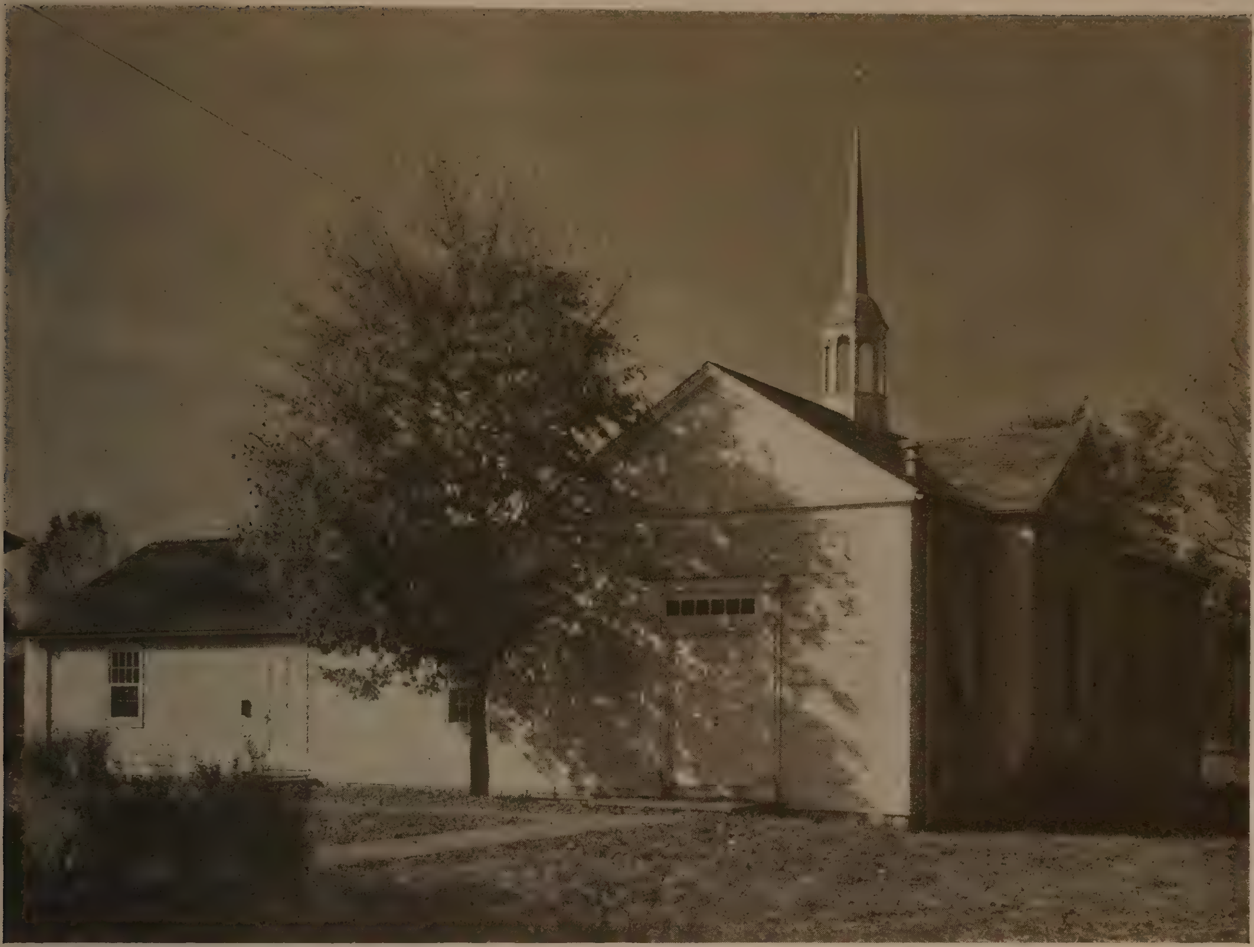
OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:
Basement, brick and frame above, wood frame, with steel construction in tower.
EXTERIOR MATERIALS:
Clapboards and matched siding.
ROOF:
Black slate.
WINDOWS:
Double-hung, wood.
FLOORS:
Maple.
HEATING:
Steam.
PLUMBING:
Toilets in basement.
ELECTRICAL EQUIPMENT:
Lighting, and blower for organ.
INTERIOR MILL WORK:
Pine.
INTERIOR WALL FINISH:
Plaster.
DECORATIVE TREATMENT:
Paint.
SEATING CAPACITY:
280.
APPROXIMATE CUBIC FOOTAGE:
192,157.
COST PER CUBIC FOOT:
17½ cents.
YEAR OF COMPLETION:
1916.

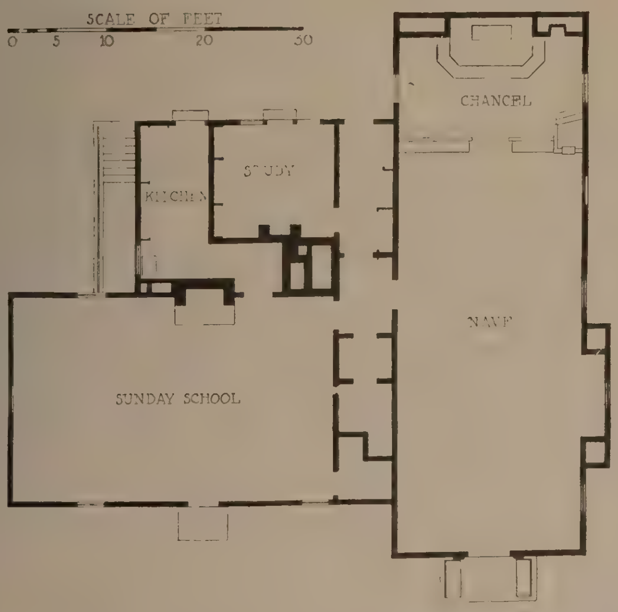
THIS white painted wooden church shows unusually careful study of Colonial proportions and details. So consistent is the entire design that the casual observer might easily believe that this church was built 150 instead of only ten years ago. The graceful entrance portico with its four Ionic columns standing on an imposing flight of eight broad steps, and backed by pilasters and a flat wall surface obtained in the old fashioned way by the use of close-matched siding, adds much to the old time appearance of the entrance front. The use of wooden quoins for the corners of the building, to give an exterior indication of the interior divisions of the plan, is another pleasingly old fashioned treatment. Although there are a few such examples to be found in Colonial architecture, the use of the Palladian type of window for all of the large side windows of the church is a little unusual. White painted woodwork, old fashioned pews with mahogany rails, an interesting and pleasing treatment and location of the organ and choir gallery back of the minister's platform and reading desk, strike a harmonious note in reflecting the congregational and old fashioned New England character of this fine church interior.



East End, Ellington Congregational Church



CHAPEL FOR ST. ALBAN'S PARISH, BEXLEY, COLUMBUS, O.
MILLER & REEVES, ARCHITECTS



Plan, Chapel and Sunday School Rooms

IT is interesting to note that one has to travel all the way to Ohio to find one of the best small churches built within the last three years in a modified type of the Colonial style. Delicacy of detail, simplicity of design and excellence of composition give to this small ecclesiastical edifice real distinction. The main door, although ample in size for its purpose as the principal entrance to the small nave, is so well designed and proportioned that it does not overpower the little end elevation of this small church. The use of quoins for the several corners of the building, together with the delightful pedimented treatment of each of the gable ends, gives an architectural stability and dignity seldom found in wooden architecture, whether the building be large or small, old or new. The long, low wing containing the Sunday School rooms easily takes its subordinate position as a part of the whole composition, suggesting as it does the old fashioned New England school house. The little

FORUM SPECIFICATION AND DATA SHEET—110

Chapel for St. Alban's Parish, Bexley, Columbus, O., Miller & Reeves, Architects

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:
Non-fireproof; concrete foundation; frame superstructure.

EXTERIOR MATERIALS:
Shingles.

ROOF:
Gray shingles.

WINDOWS:
Double-hung, wood.

FLOORS:
Oak.

HEATING:
Warm air.

PLUMBING:
Usual installation and good fixtures.

ELECTRICAL EQUIPMENT:
Conduit.

INTERIOR MILL WORK:
Poplar, painted.

INTERIOR WALL FINISH:
Sand-finished plaster.

DECORATIVE TREATMENT:
Stained wood ceiling; plain plaster walls.

SEATING CAPACITY:
100.

APPROXIMATE CUBIC FOOTAGE:
62,000.

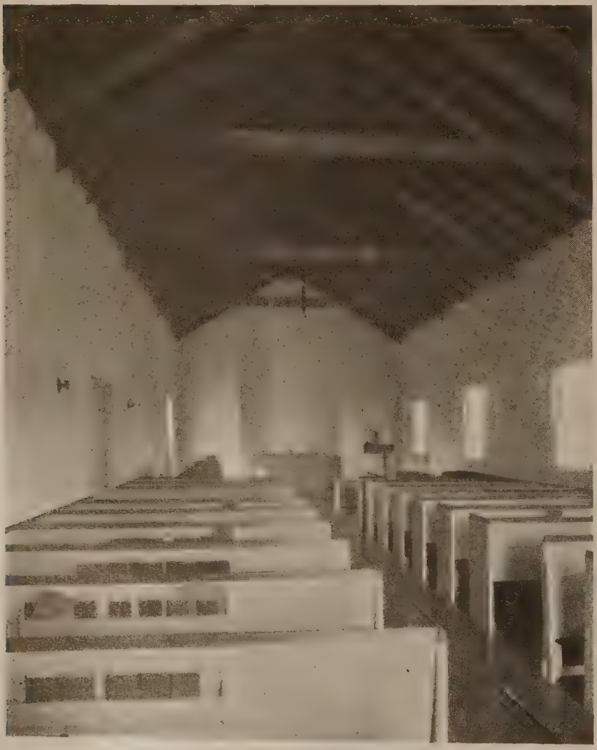
COST PER CUBIC FOOT:
Approximately 24 cents.

DATE OF COMPLETION:
June, 1925.

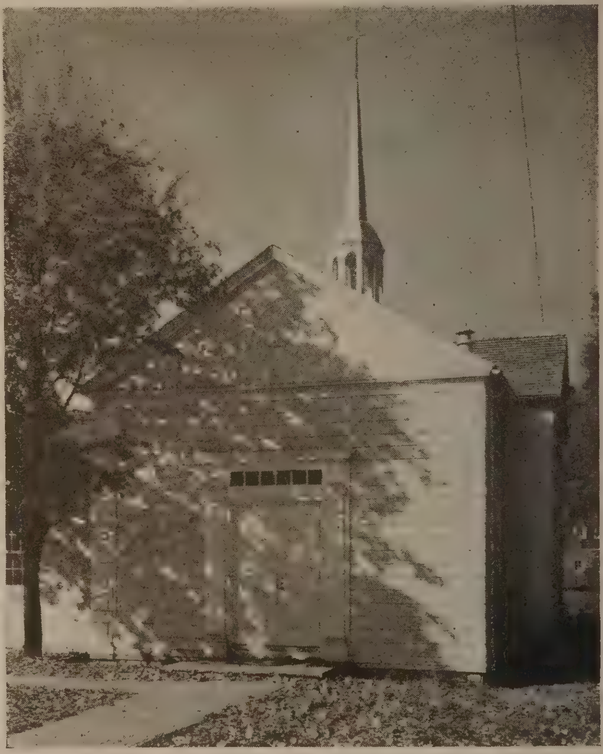
Note: This is a temporary structure for a new parish.

belfry and sharp spire create the final architectural notes needed to complete the "song of frozen music" to which Ruskin compared architecture long ago.

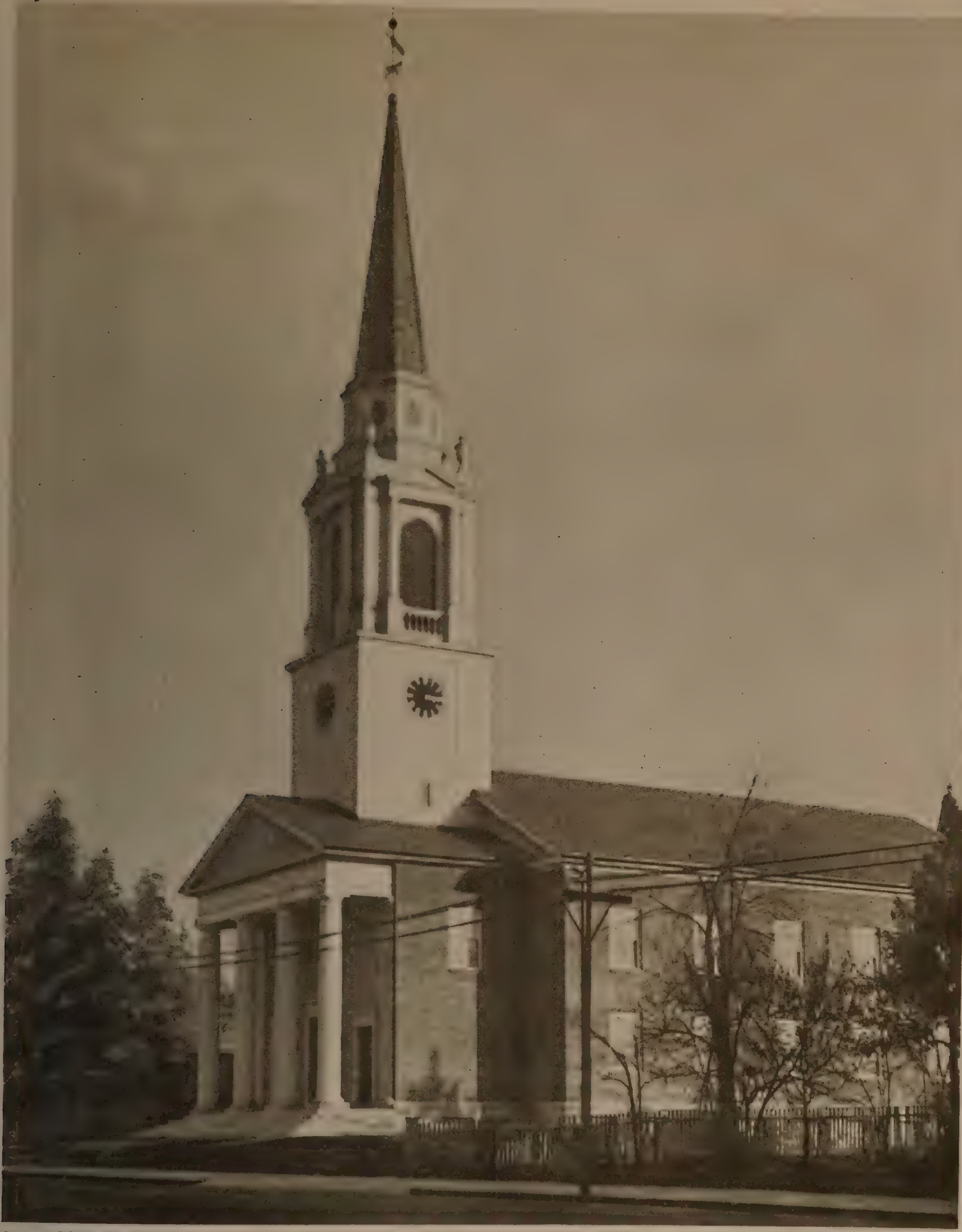
The interior design of this exquisite bit of architecture shows the same severity and simplicity as the exterior. White painted wooden benches capped with carefully detailed mouldings in mahogany harmonize with the soft gray of the plain plaster walls. The chancel rail of delicately turned balusters and the white paneled altar contrast agreeably with the monastic severity of the interior design. Relieving the gray and white of the furniture and walls, the ceiling rafters and beams are stained deep brown, and the beams are decorated at intervals with heraldic devices in colors. The rafter directly over the chancel rail becomes a rood beam, through the placing upon it of a small cross of carved wood. At one side of the small church auditorium a passage between the seats leads to a door which connects with the Sunday School rooms in the wing of the building. Although simple to the point of austerity, the interior of this little church possesses an atmosphere truly religious. The pomp and glamor of the material world have been successfully eliminated. A spirit of rest and repose, of sanctity and silence pervades this building, the work of creative architectural ability.



Nave, St. Alban's Chapel



The Main Entrance



Photos. Walter Dole

EVANGELICAL CONGREGATIONAL CHURCH, BRIGHTON, MASS.
BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS

ANOTHER excellent example of a modern suburban church, the plan and details of which have been carefully copied from Colonial precedent, is this brick-veneered church with white painted wood trim at Brighton, Mass. The tall tower with its solid rectangular base, penetrated by clock faces on four sides and its well proportioned and pleasingly detailed belfry above, sits solidly above the entrance portico of the church. This portico shows four fluted Tuscan columns standing on low, spreading

FORUM SPECIFICATION AND DATA SHEET—111

Evangelical Congregational Church, Brighton, Mass.; Blackall, Clapp & Whittemore, Architects

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:
Brick veneer on wood frame.

EXTERIOR MATERIALS:
Brick, stone and wood.

ROOF:
Slate.

WINDOWS:
Wood sash and frame; cathedral glass.

FLOORS:
Oak, and tile in lobby.

HEATING:
Vapor.

PLUMBING:
Enameled fixtures.

ELECTRICAL EQUIPMENT:
Lighting.

INTERIOR MILL WORK:
Oak and white pine.

INTERIOR WALL FINISH:
Plaster, painted.

DECORATIVE TREATMENT:
Main auditorium, white and gray; social room, oak and tan plaster.

SEATING CAPACITY:
Main auditorium, 374; main balcony, 217; Sunday School room, 400.

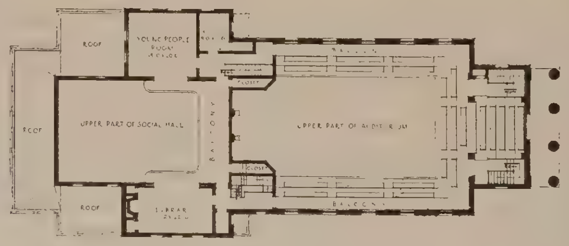
APPROXIMATE SQUARE FOOTAGE:
8,584.

COST PER SQUARE FOOT:
$12.80.

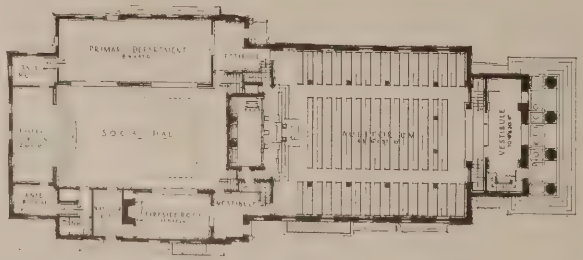
DATE OF COMPLETION:
June 26, 1922.

marble steps and supporting a heavy but simple entablature and pediment. As the columns and entablature are of wood, it would seem to have been more consistent had the face of the pediment itself been constructed of the same material instead of brick. In fact the use of some decorative Colonial details in the pediment would have tied together more happily the severe and stately entrance portico and the more decorative arched detail of the tower above. The white painted pews with mahogany rails; the plain, stout columns supporting the balconies; the pulpit-like reading desk in the center of the chancel; and the high singing gallery and ornamental treatment of the organ at the rear of the chancel all add dignity and a consistent Colonial character to the church auditorium.

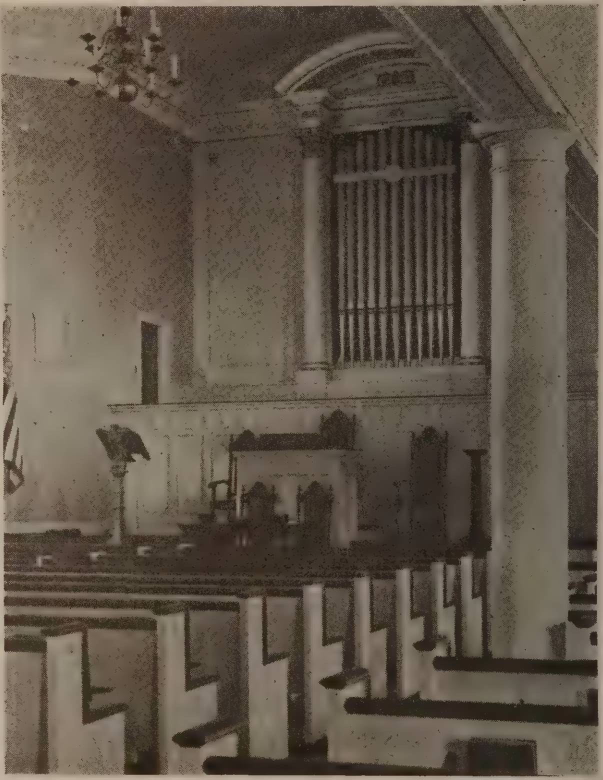
The floor plans show the excellent provision which the architects have made for what might be called the "working departments" of the parish. Nothing in a church of this size could be more complete than the rooms for the Sunday School,—a main hall together with smaller classrooms opening from it, and with the necessary retiring rooms. These are reached either from the main auditorium or directly from outside.



Balcony Floor



Main Floor



Interior, Brighton Congregational Church

INTERIOR ARCHITECTURE

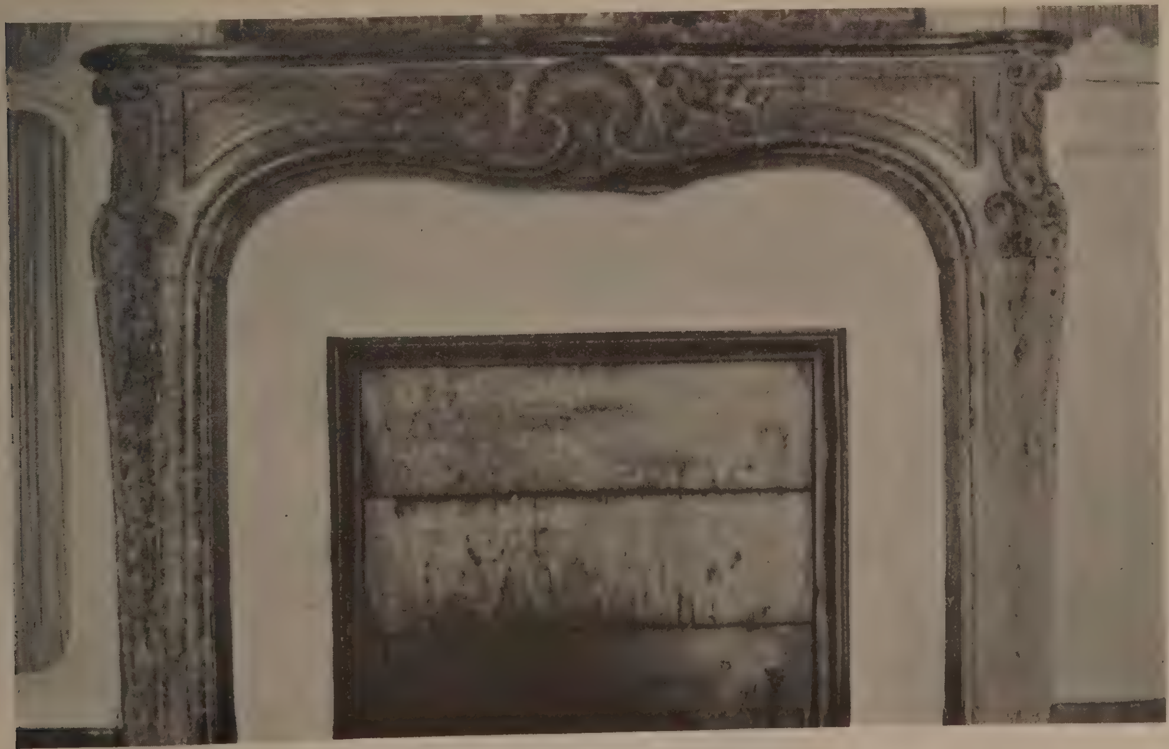
The Boudoir of Madame Du Barry, Versailles

By C. HAMILTON PRESTON

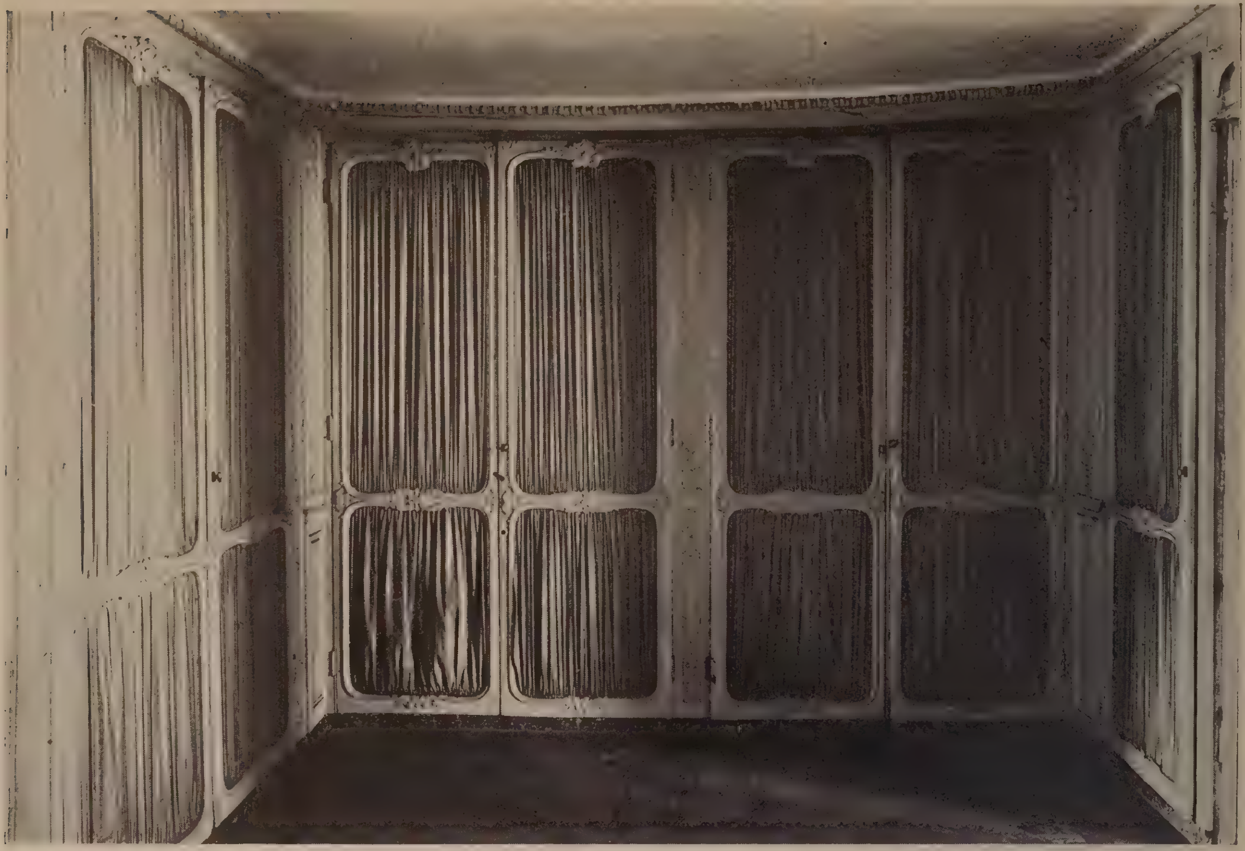
OF all the rooms composing that famous suite at Versailles known as the *Appartements Du Barry,* created by Louis XV for the royal favorite, the subject of our sketch is the most interesting; as to both design and detail it is unusual.

Apparently the room was planned as a combination boudoir and dressing room. The customary alcove for the bed is there, though not so deeply recessed as usual, while all around are the closets arranged to include practically all the paneling of the room. This room, facing on the town side of the Palace, is lighted by a single dormer which, though one of those beautifully designed and detailed dormers of which there are so many at Versailles, is nevertheless none too large and gives so little light that the room is rather gloomy. The problem of getting the requisite height for the room was managed by placing the ceiling high in the roof and stepping down twice to the height of the dormer. This treatment is most ingenious in spite of the fact that the dormer seems low in appearance and tunnel-like in effect, owing to the length of the jambs. It is the best solution of a difficult problem, and the effect is greatly enhanced by the beauty of the detail involved.

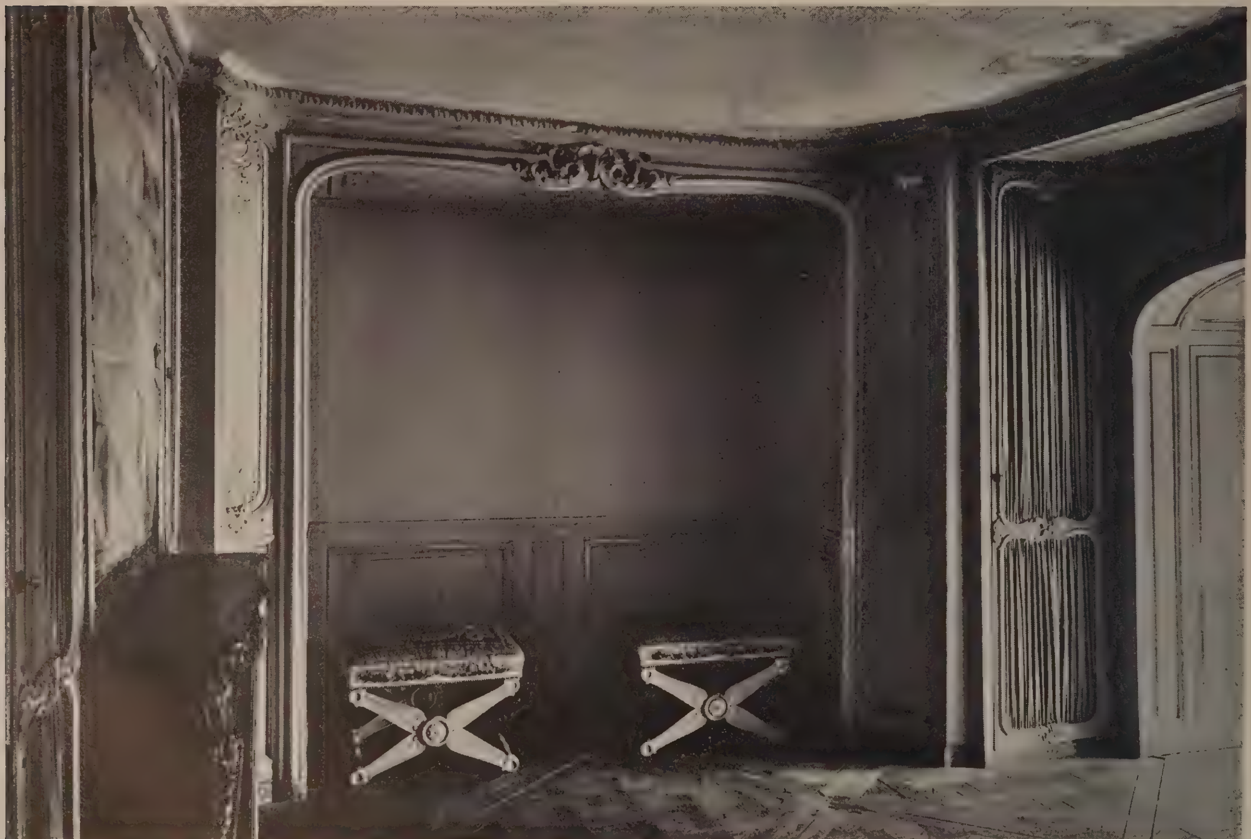
In detail of the Louis XV manner, this room is unsurpassed. The graceful curve and center motif of the alcove; the top, bottom and intermediate motifs of each of the panels which form the closets; the narrow panels wherever they occur; and the curved panels at either side of the alcove are all exquisite in the grace and beauty of their curves and the rare delicacy of their detail. Nowhere in France is there a more satisfactory piece of work of this period. The mouldings are varied as to design and scale, yet properly related one to another, robust in scale, and never finical. In this room we find expressed the best traditions of the Louis XV manner strength throughout and utmost beauty of detail. The mantel is elaborate in design and unusual in ornament, though the design is somewhat marred and confused by the extraordinarily mixed mottlings and markings of the marble, a strange mingling of dark yellows and reds. In the time of Du Barry this room must have been charming in color; now it is the usual gray, as modified by the Second Empire. As an inspiration for either a boudoir or library in a slightly frivolous and gaysome manner, this room is without peer. The arrangement of the paneling is well adapted to use in a library where it is necessary to place the books in glazed cases.



Mantel, Boudoir of Madame Du Barry

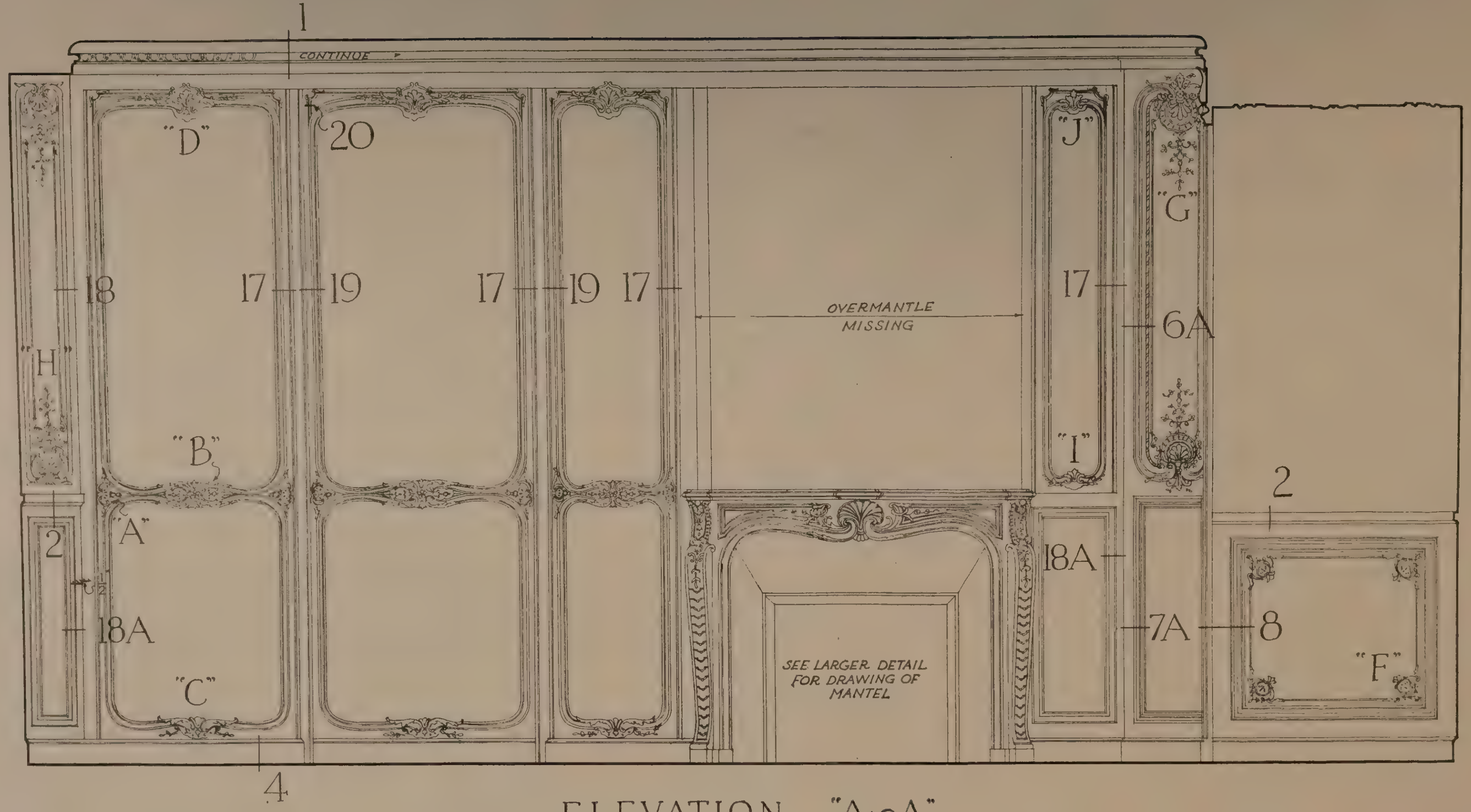


PANELING

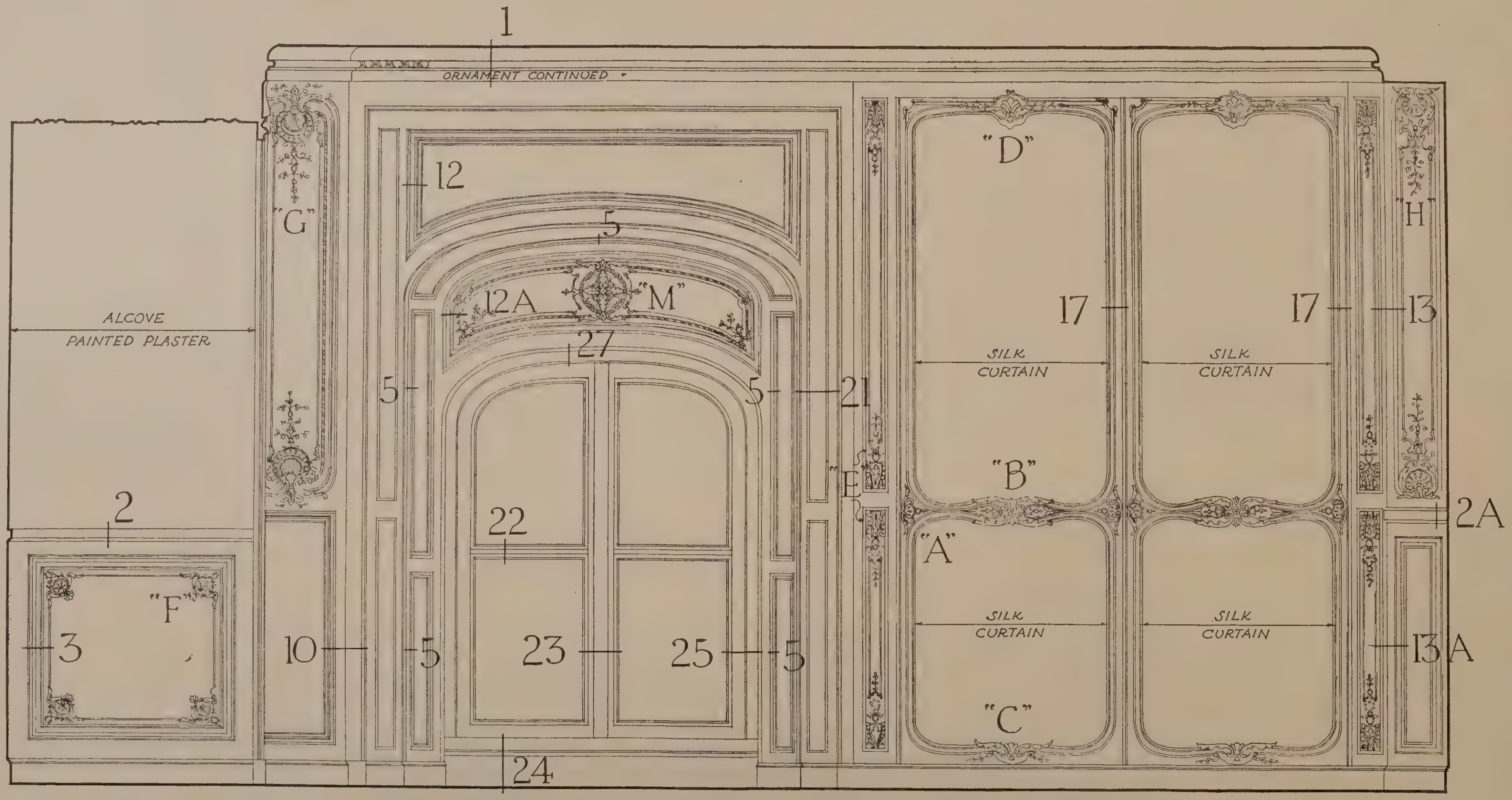


ALCOVE

DETAILS, BOUDOIR OF MADAME DU BARRY, VERSAILLES


1
CONTINUE
"D"
20
18
17
19
17
19
17
OVERMANTLE
MISSING
"J"
17
"G"
6A
"H"
"B"
"I"
2
"A"
2
18A
7A
8
18A
"C"
SEE LARGER DETAIL
FOR DRAWING OF
MANTEL
"F"
4

ELEVATION "A–A"
Scale $\frac{1}{2}$" = 1 Foot
BOUDOIR
DU BARRY APARTMENTS
VERSAILLES


1
ORNAMENT CONTINUED
ALCOVE
PAINTED PLASTER
2
3
"F"
"G"
10
12
5
12A
"M"
27
5
22
23
24
25
5
21
5
"E"
"D"
"B"
"A"
"C"
17
17
SILK CURTAIN
SILK CURTAIN
SILK CURTAIN
SILK CURTAIN
"H"
13
2A
13A

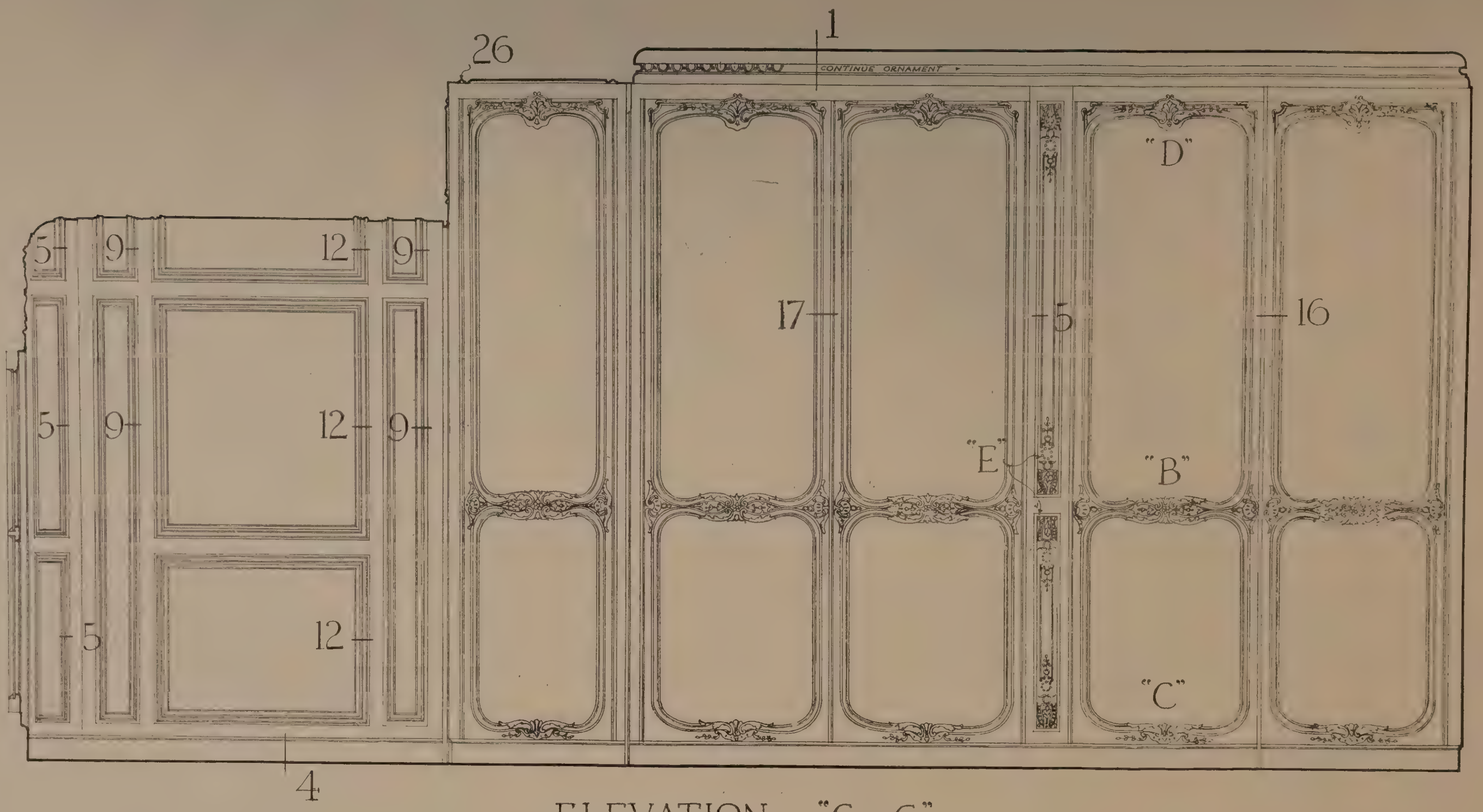
ELEVATION "B-B"

Scale $\frac{1}{2}$" = 1 Foot

BOUDOIR

DU BARRY APARTMENTS

VERSAILLES

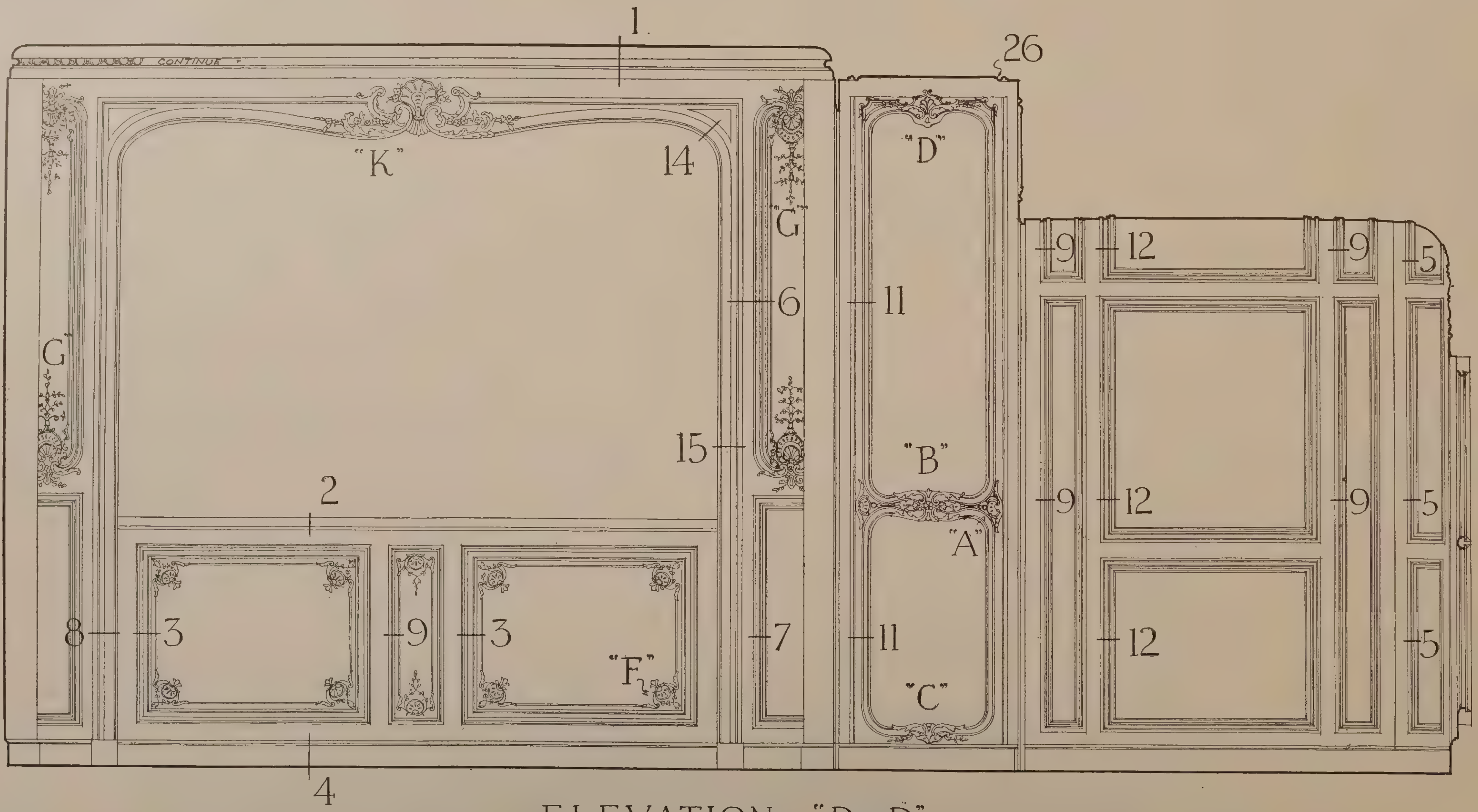

1
CONTINUE ORNAMENT
26
5
9
12
9
5
9
12
9
5
12
4
17
5
"E"
"D"
"B"
"C"
16

ELEVATION "C~C"

Scale $\frac{1}{2}$" = 1 Foot

BOUDOIR

DU BARRY APARTMENTS
VERSAILLES



1
CONTINUE
26
"K"
14
"D"
"G"
9
12
9
5
6
11
"G"
15
"B"
2
9
12
9
5
"A"
8
3
9
3
"F"
7
11
12
5
"C"
4

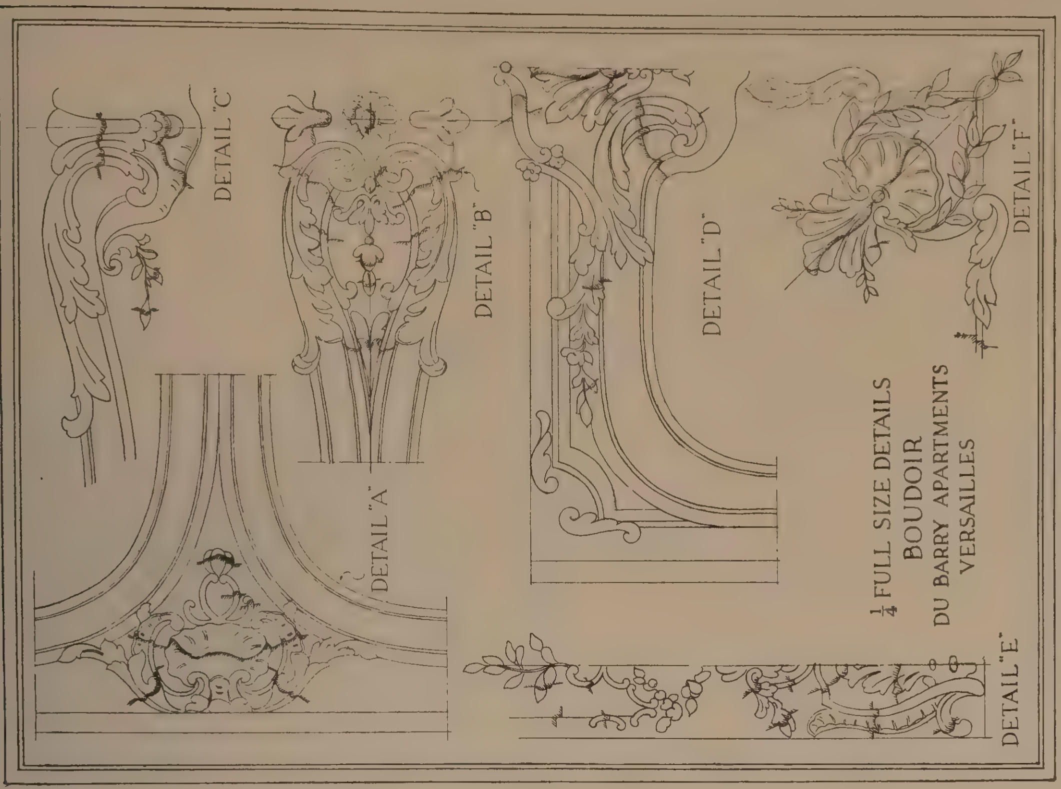
ELEVATION "D~D"

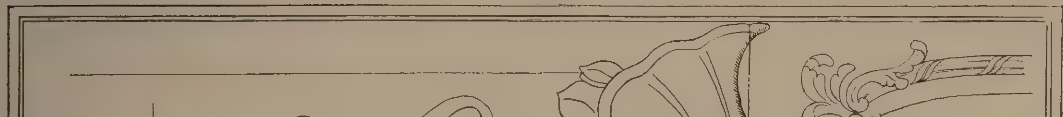
Scale ½" = 1 Foot

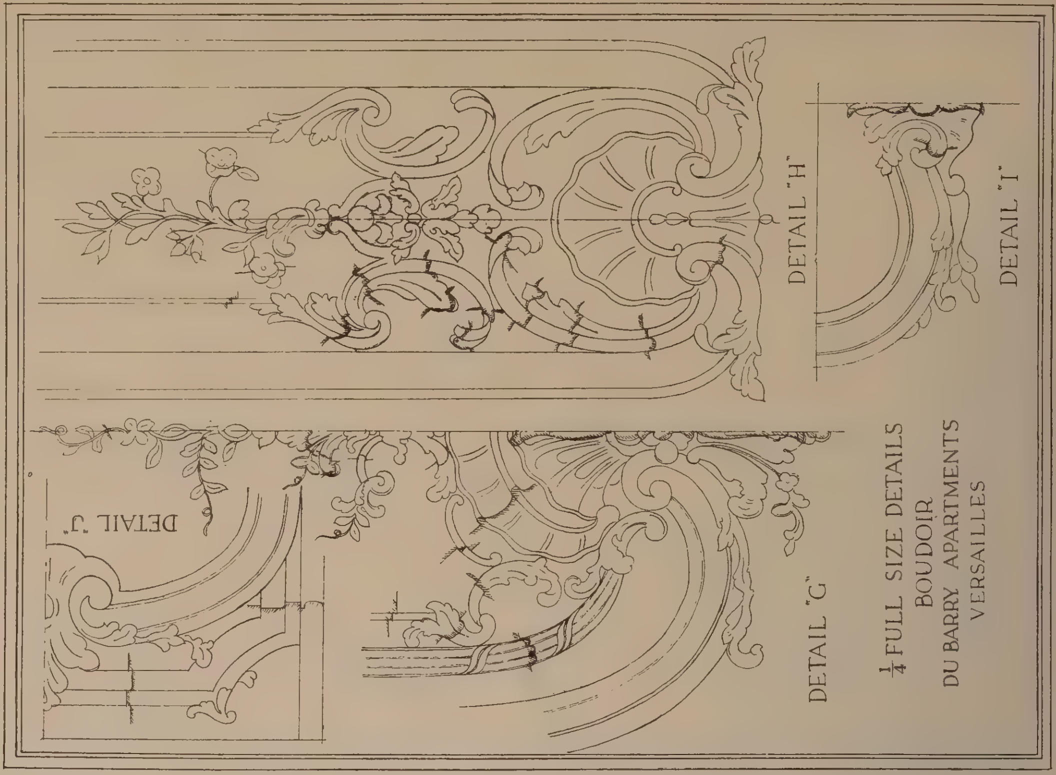
BOUDOIR

DU BARRY APARTMENTS

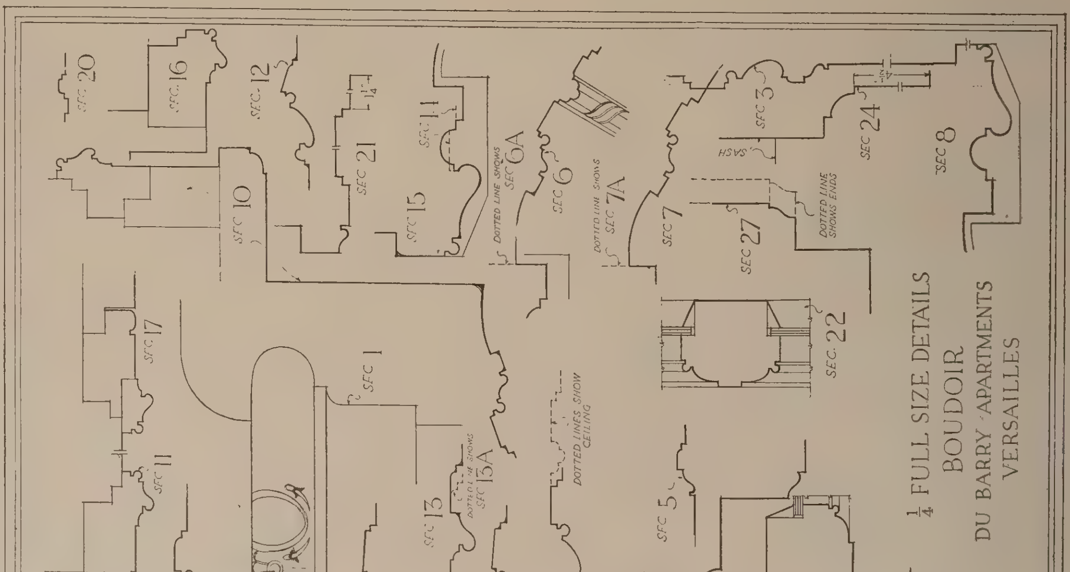
VERSAILLES


DETAIL "C"
DETAIL "B"
DETAIL "D"
DETAIL "F"
DETAIL "A"
DETAIL "E"
$\frac{1}{4}$ FULL SIZE DETAILS
BOUDOIR
DU BARRY APARTMENTS
VERSAILLES


DETAIL "L"
CEILING OF ALCOVE
DETAIL "K"
"A"
"C"
"D"
"A"
"B"
"B"
"C"
"D"
KEY PLAN
Scale $\frac{1}{16}$" - 1 Foot
$\frac{1}{4}$ FULL SIZE DETAILS
BOUDOIR
DU BARRY APARTMENTS
VERSAILLES
DETAIL "M"
AND CEILING OF ALCOVE


DETAIL "H"
DETAIL "I"
DETAIL "J"
DETAIL "C"

1/4 FULL SIZE DETAILS
BOUDOIR
DU BARRY APARTMENTS
VERSAILLES


SEC 20
SEC 16
SEC 12
SEC 21
SEC 14
SEC 10
SEC 15
DOTTED LINE SHOWS SEC 6A
SEC 6
DOTTED LINE SHOWS SEC 7A
SEC 3
SASH
SEC 24
SEC 8
SEC 7
SEC 27
DOTTED LINE SHOWS ENDS
SEC 17
SEC 1
SEC 22
SEC 11
DOTTED LINE SHOWS SEC 13A
SEC 13
DOTTED LINES SHOW CEILING
SEC 5
SEC 19
SEC 9
SEC 26
SEC 12A
SEC 3
SEC 25
SEC 23
SEC 18
DOTTED LINE SHOWS SEC 18A
SEC 2
SEC 4

1/4 FULL SIZE DETAILS
BOUDOIR
DU BARRY APARTMENTS
VERSAILLES

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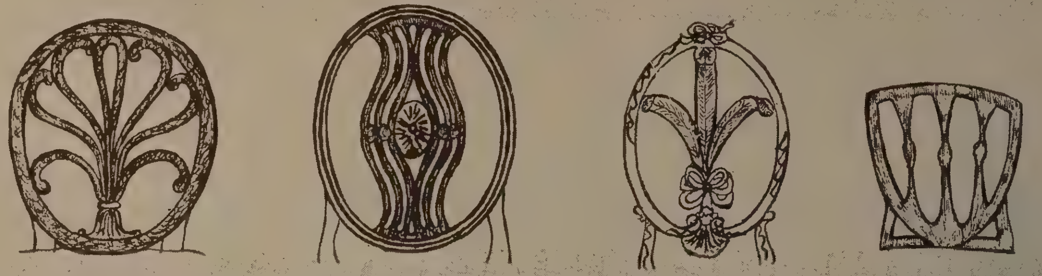
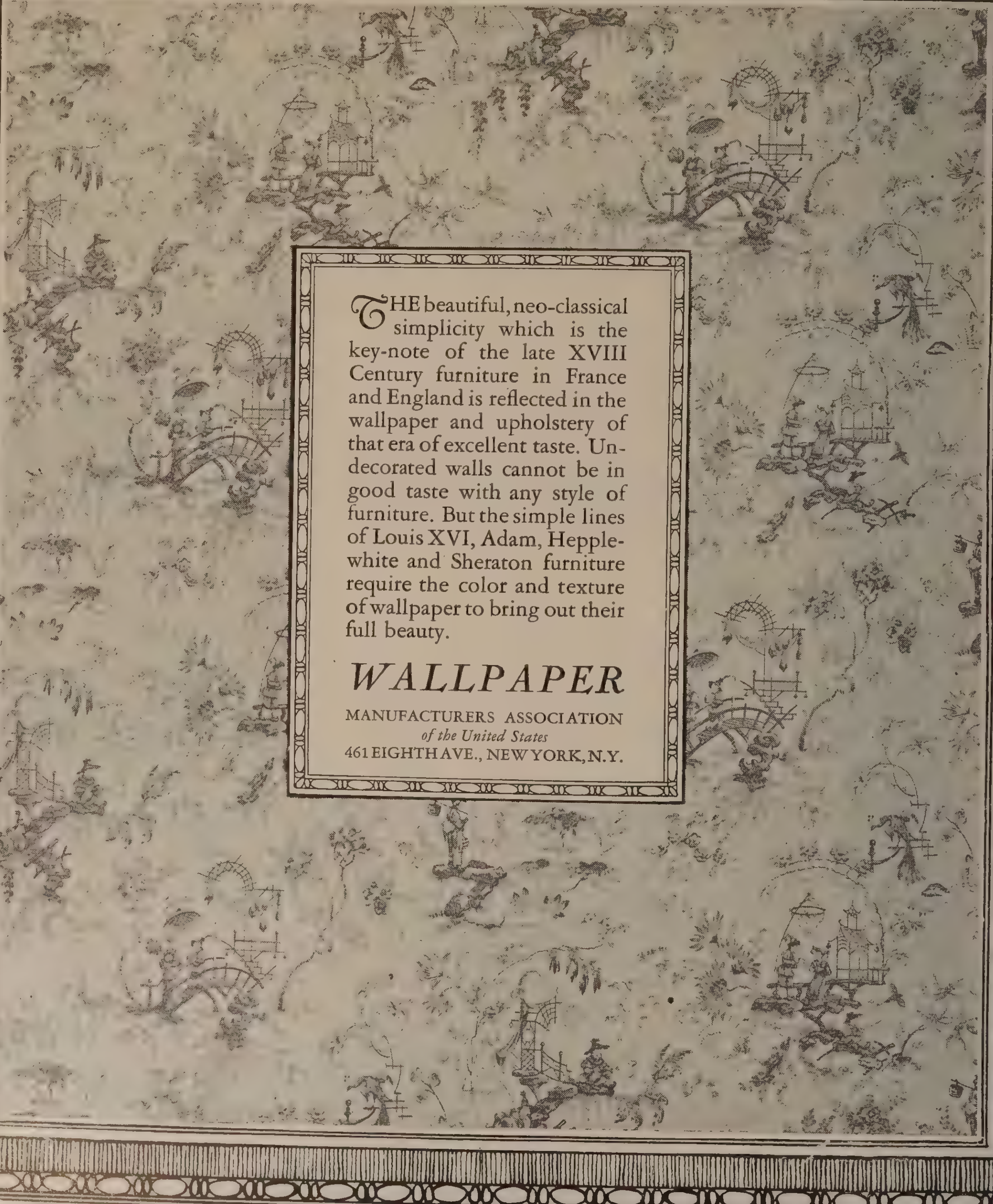


Four typical Hepplewhite chair backs. Reading from left to right—The Honeysuckle pattern, The Splatback, The Prince of Wales' Feathers and The Crusaders' Shieldback.



THE beautiful, neo-classical simplicity which is the key-note of the late XVIII Century furniture in France and England is reflected in the wallpaper and upholstery of that era of excellent taste. Undecorated walls cannot be in good taste with any style of furniture. But the simple lines of Louis XVI, Adam, Hepplewhite and Sheraton furniture require the color and texture of wallpaper to bring out their full beauty.

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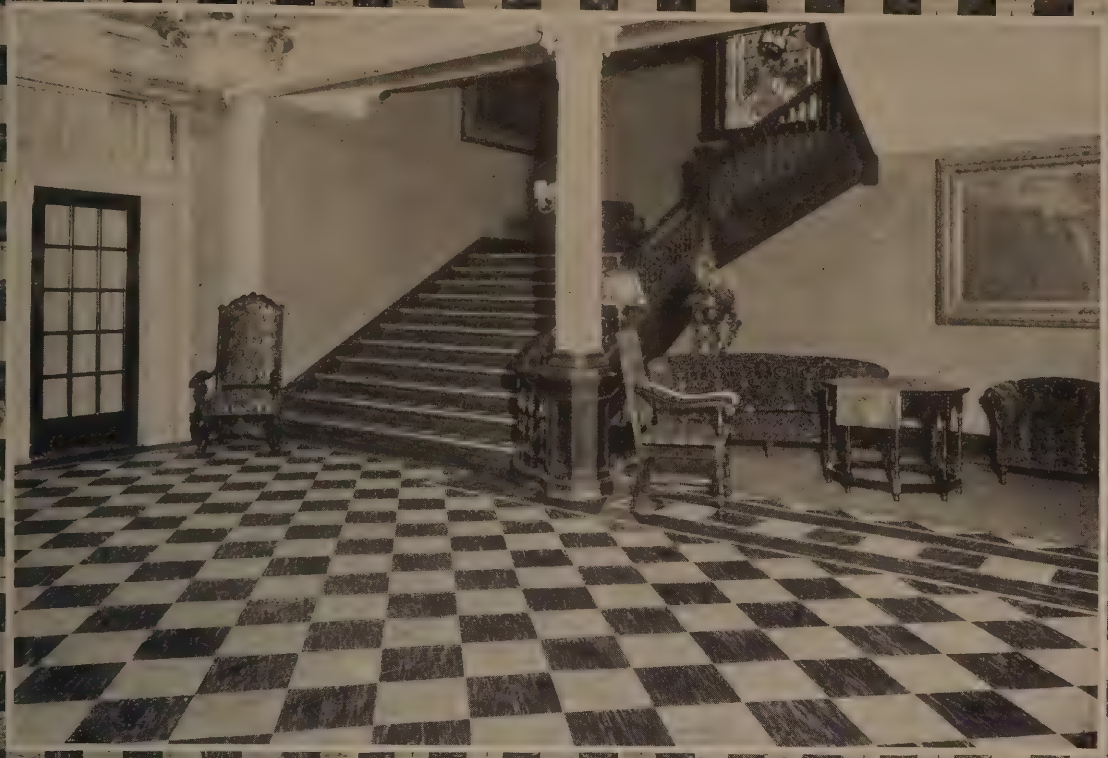

A floor of *Gold Seal* Marble-ized Tile in the remodelled building of the Detroit Harmonie Society, Detroit, Michigan

A *new* marbleized tile—

The wide variety of colorful marble effects in this new floor material—*Gold Seal* Marble-ized Tile—makes it possible to achieve perfect harmony with every interior.

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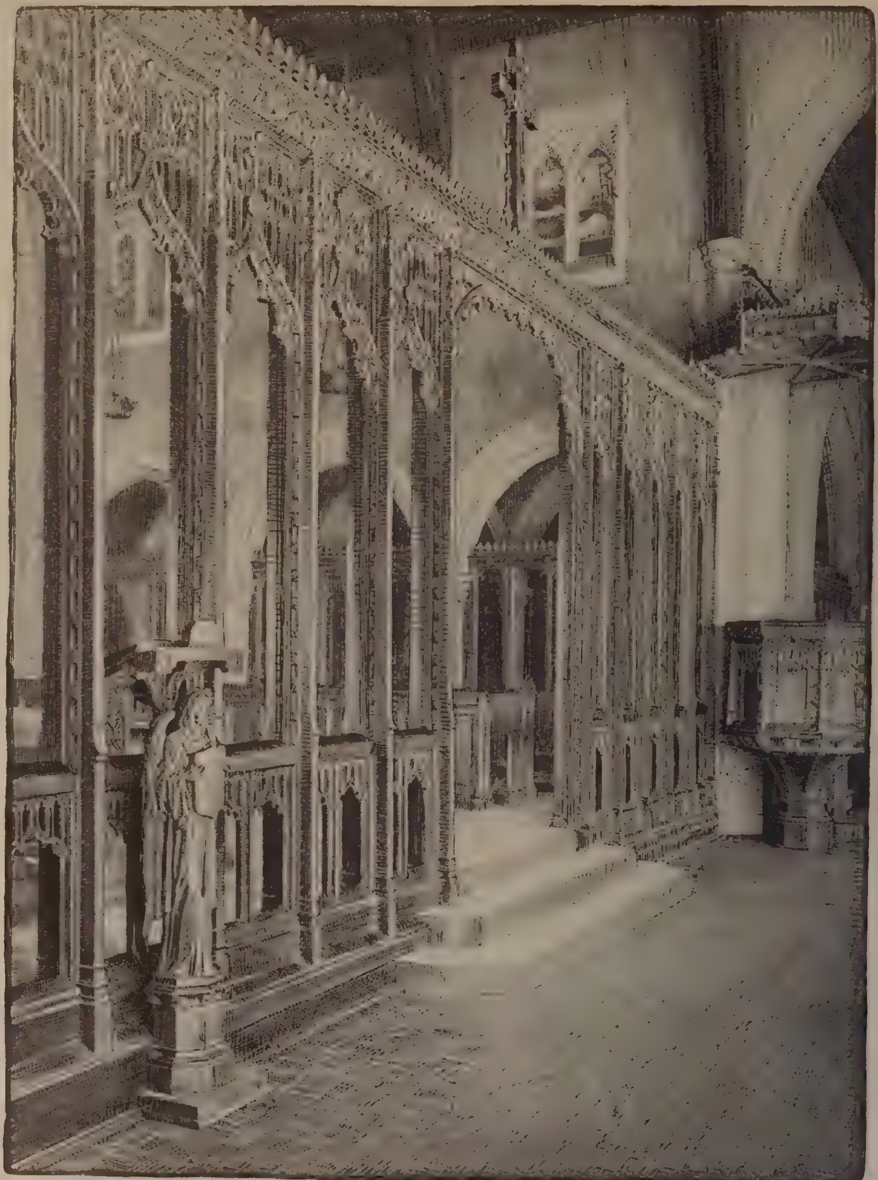

*Sketch of Chancel,
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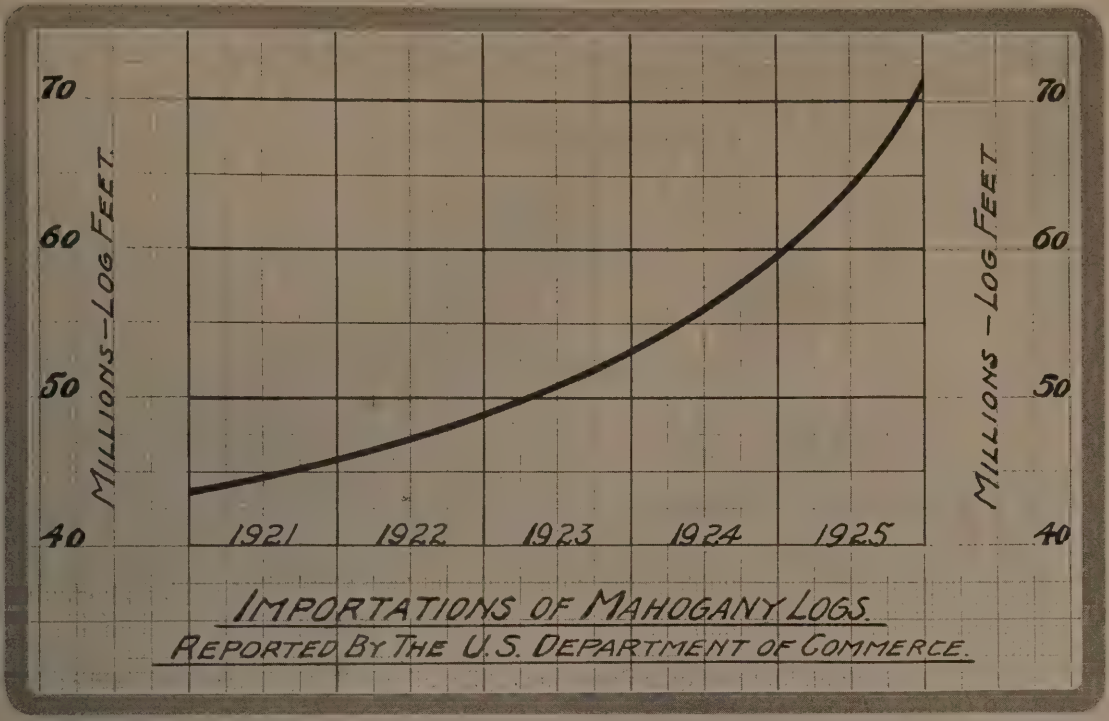

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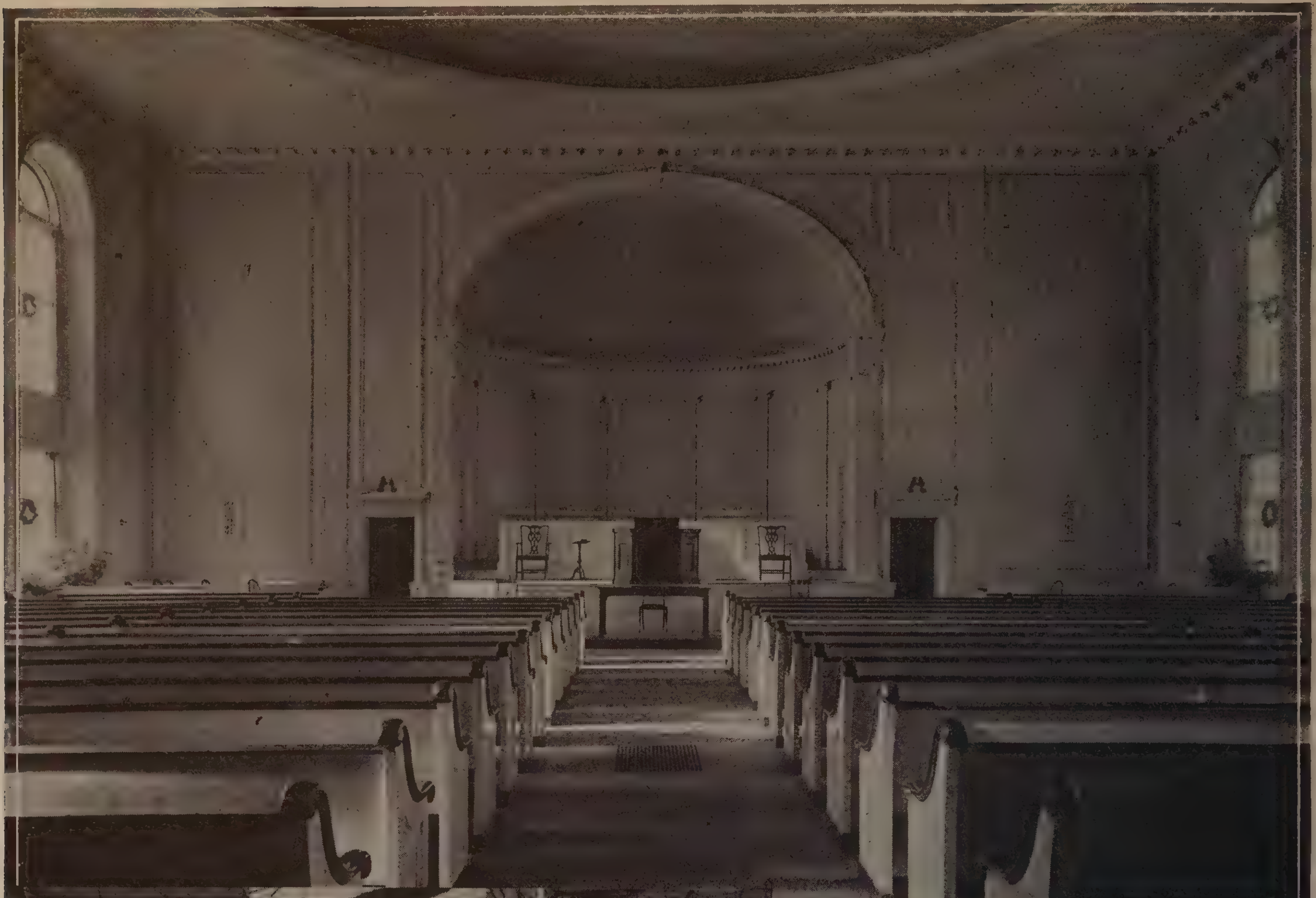

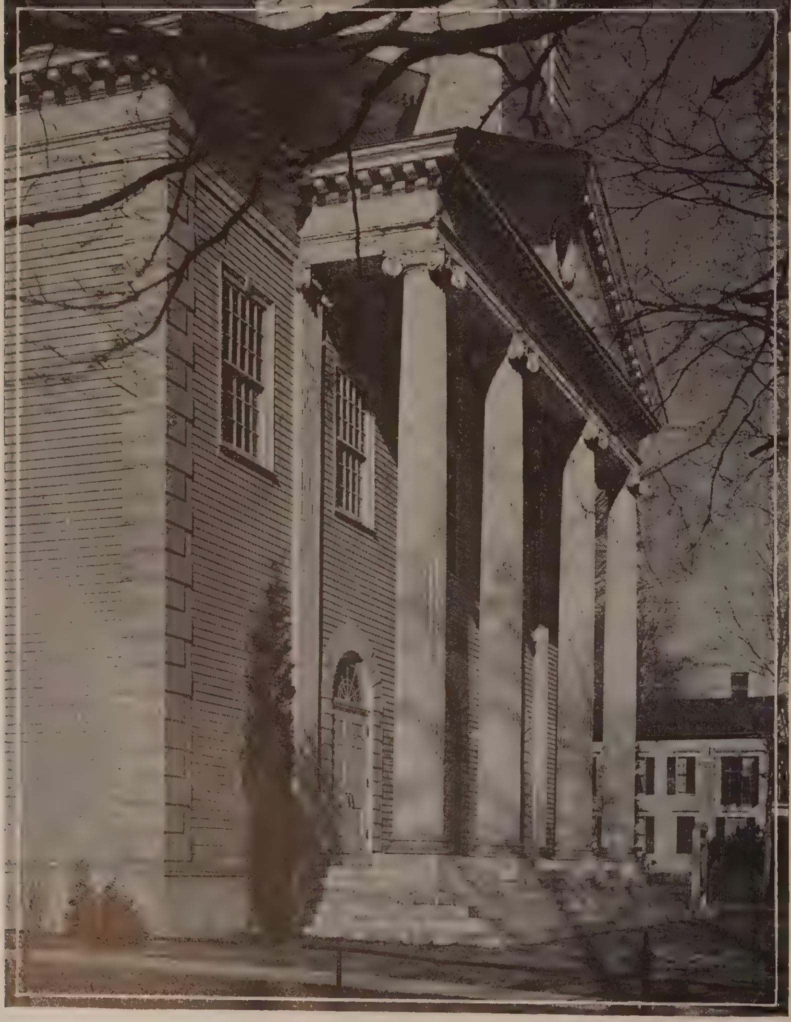

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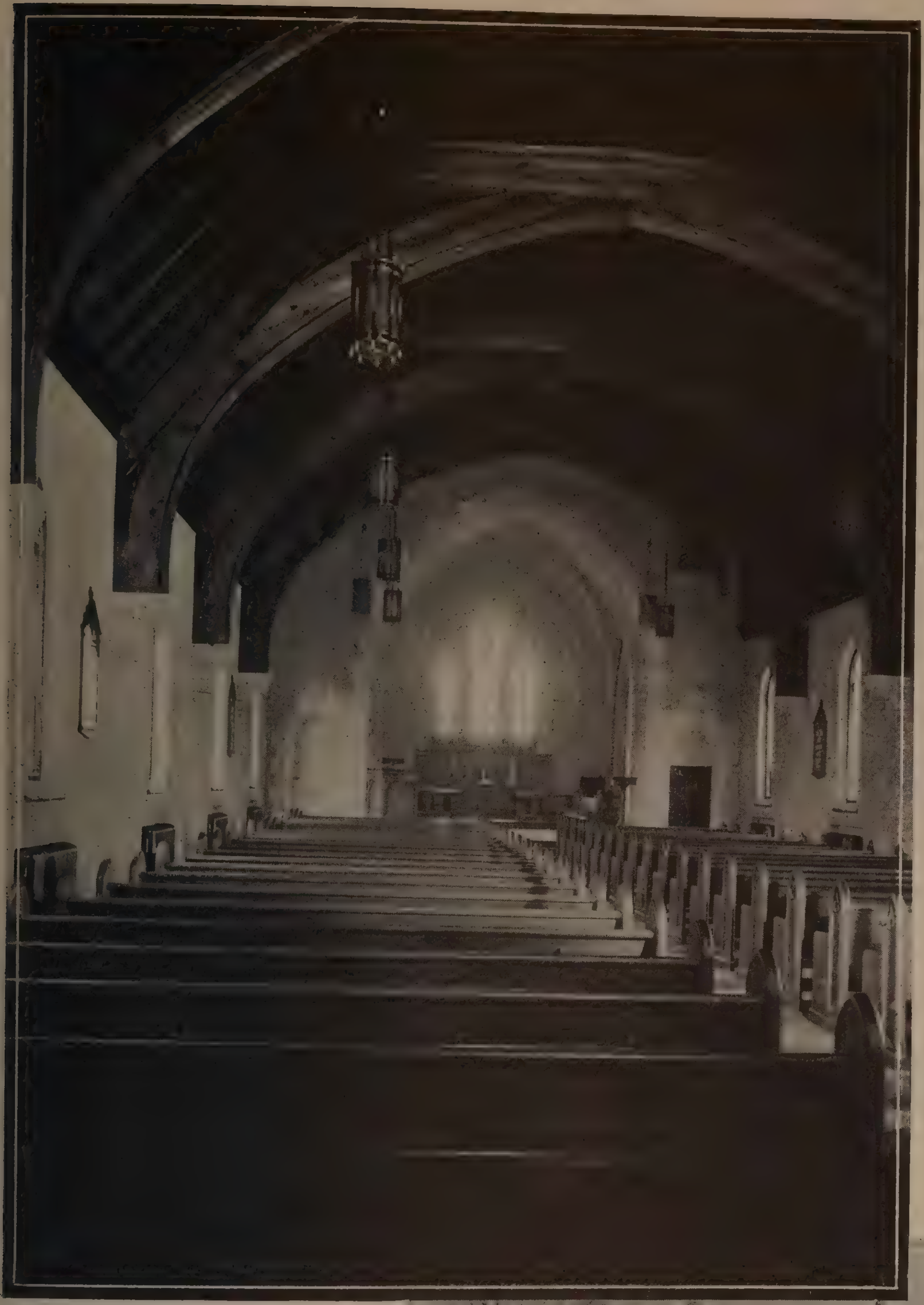

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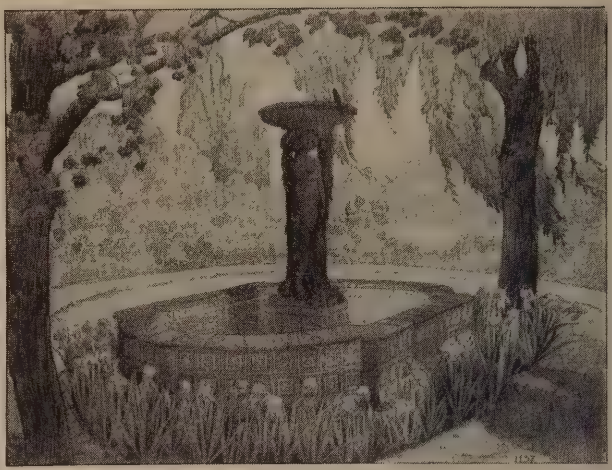

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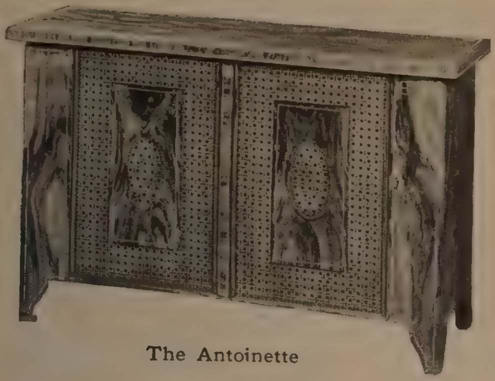

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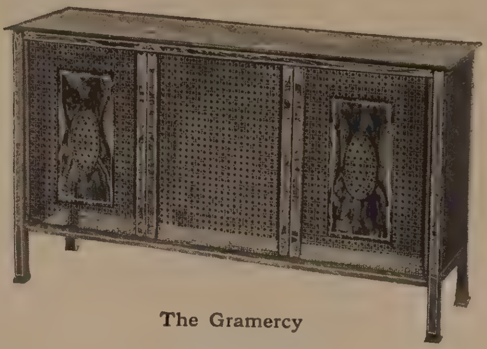

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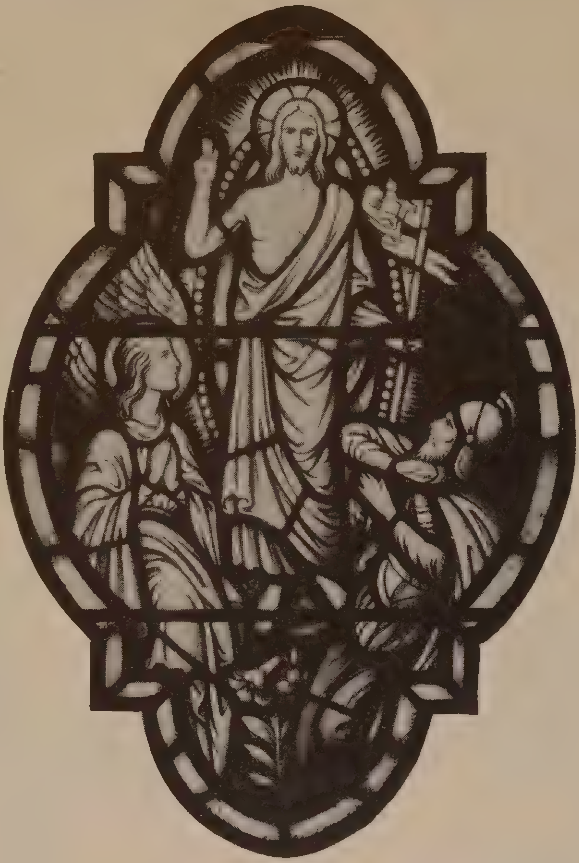

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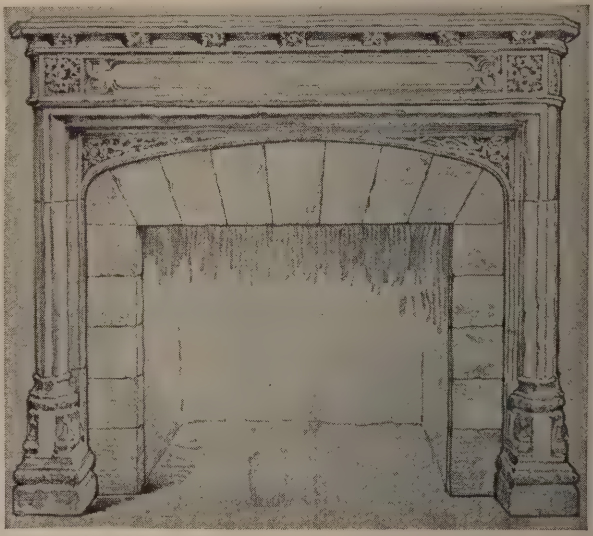

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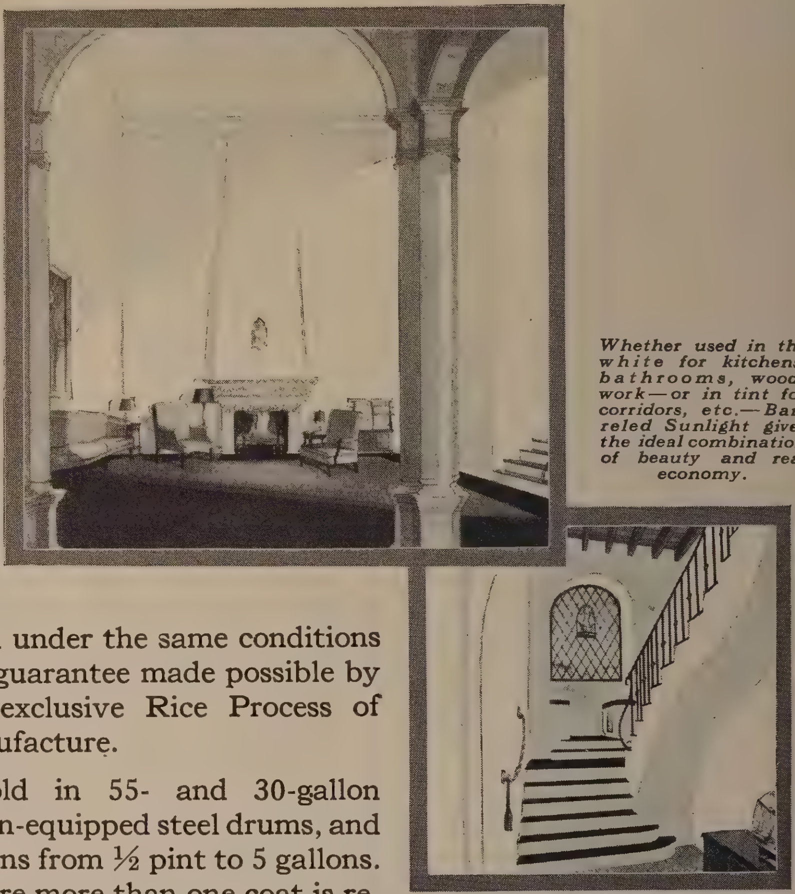

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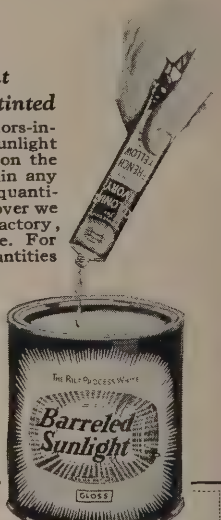

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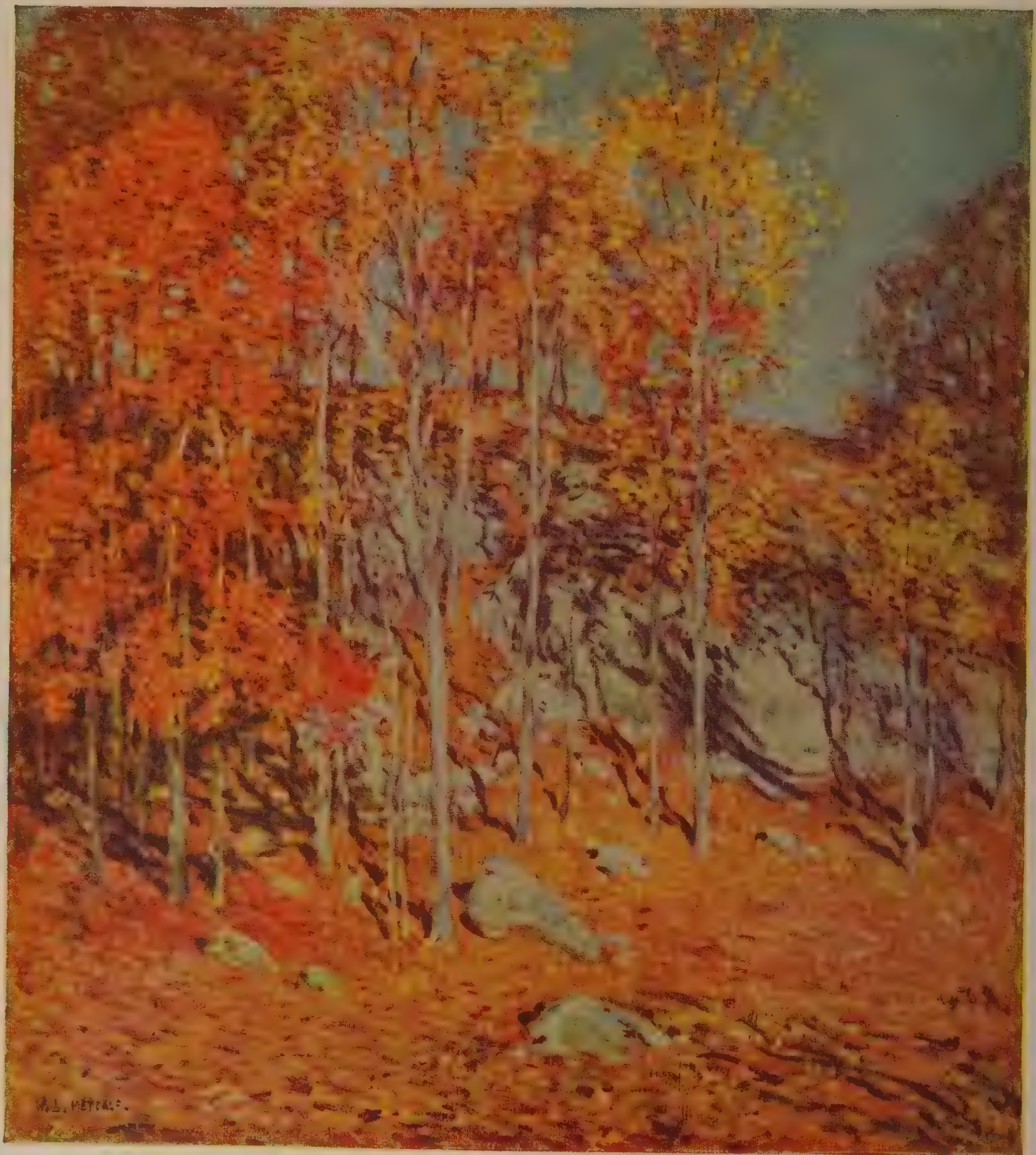

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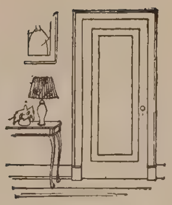

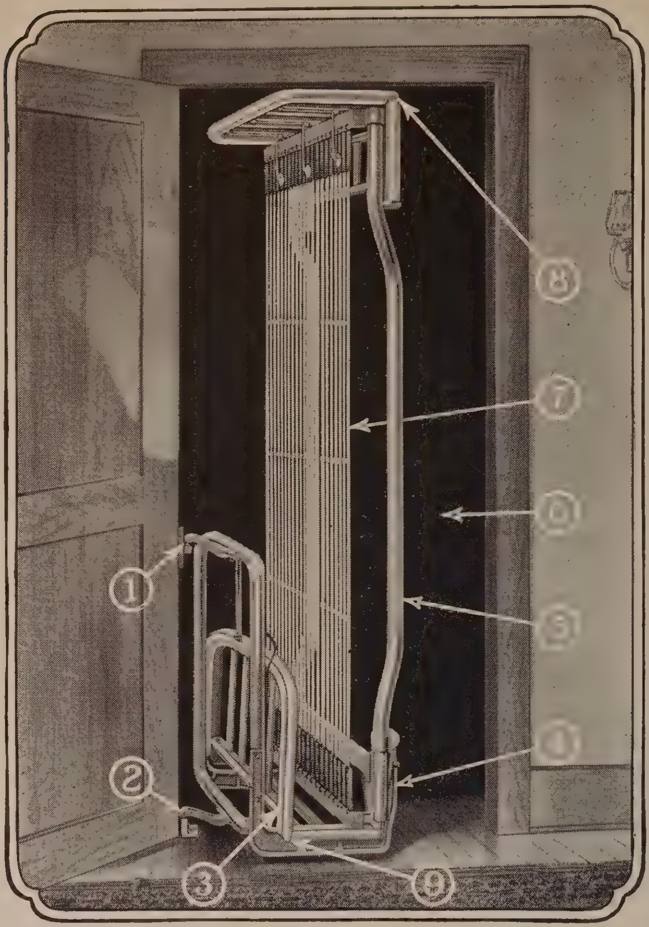

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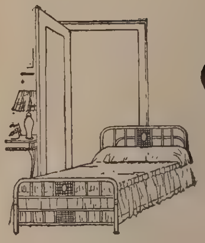

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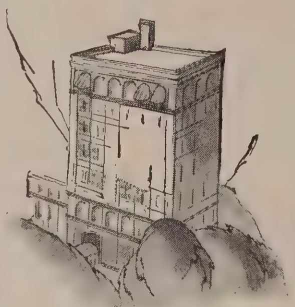

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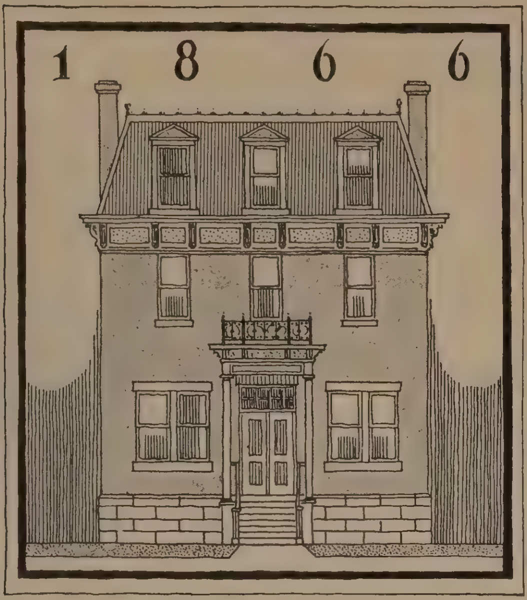

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Two men three minutes apart

completely finish interior woodwork in one operation

An architect on the Pacific Coast has developed a method of using Murphy Brushing Lacquer in refinishing the woodwork of a house which seems to bring into modern building some of the methods of Aladdin and his wonderful lamp.

Murphy Brushing Lacquer, you will remember, is the quick-drying pyroxylin finish, which gives a finish and a color like enamel to woodwork and other surfaces, and dries in an incredibly short time.

The new method of using this material is as easy as this:

One painter applies a coat of Murphy Brushing Lacquer—say, a silver gray or mahogany—to the woodwork. A second painter follows him in three minutes and rubs off the lacquer across the grain with tow or burlap. The three minutes' wait does not allow the Brushing Lacquer to dry thoroughly but gives it time to penetrate deeply into the softer portions of the grain. The harder portions do not absorb the lacquer and are wiped clean.

The result is a smooth, impervious stain finish of remarkable beauty, showing the grain. The surface is dry to the touch in five minutes and ready for use in an hour or so.

If desired, a coat of clear Brushing Lacquer may be applied thirty minutes after the colored Brushing Lacquer has been rubbed off. This will add a gloss and have the same effect as a coat of varnish.

This is but one of the many uses of Murphy Brushing Lacquer in the building trades, giving new effects of beauty and cutting down tremendously the time of applying, and almost eliminating waiting for it to dry.

To show you exactly how this finish works we shall be glad to send you a sample panel finished in silver gray or mahogany by this method. Write us or use the coupon.

Murphy Varnish Company
224 McWhorter Street
Newark, N. J.

Please send me a sample panel showing Murphy Brushing Lacquer rubbed off. (Unless otherwise specified this panel will be finished in gray)

NAME________________________

ADDRESS________________________

Murphy BRUSHING Lacquer

MURPHY VARNISH COMPANY

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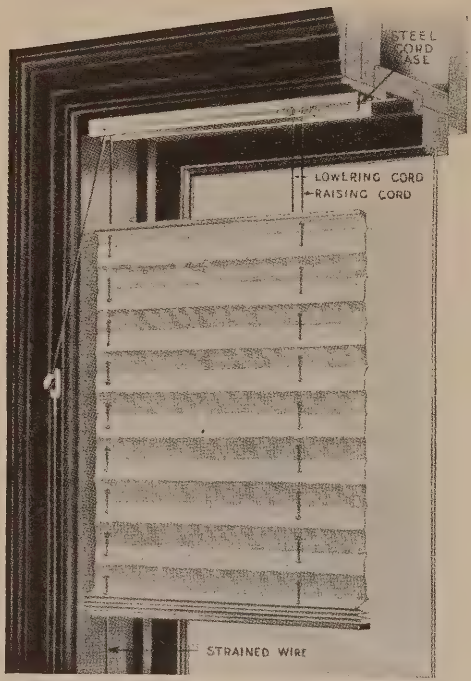
Athey Perennial
Window Shades

Have been installed in some of the best buildings in your City, *because*



Detailed drawing showing construction and operation of Athey Perennial Window Shades

They Conserve Eyesight

Authorities agree that the glare from windows, ***improperly shaded***, is one of the chief causes of defective eyesight. The Bureau of Education, of the Department of the Interior, in a bulletin on the subject has the following to say about window shades: **"The only satisfactory device is the adjustable fixture whereby any part of the window can be covered."**

Athey Perennial Shades can be raised from the bottom or lowered from the top. They can be quickly adjusted to shut out the sun's direct rays without making parts of the room dark.

Provide Perfect Ventilation Make Awnings Unnecessary

By raising the shades to the top, and lowering to 10 in. from the window stool, and lowering the upper sash about 10 in., the sun's rays superheat the air between the glass and the shades. This superheated air must pass up and out above the sash, drawing old air from the room and automatically providing ventilation.

With Athey Shades no awnings are needed, **so that expense and fire hazard is eliminated.**

Nothing to Get Out of Order

They are made of a special Herringbone Weave Coutil Cloth that is ***practically indestructible* — and guaranteed sunfast.** Rain won't ruin it. They have no springs, latches, catches or rollers to slip, stick or break. They operate on strained wires so they cannot rattle or flutter.

Last So Many Years They Are the Most Economical

Many of the first Athey Shades made — more than 10 years ago—are still in excellent condition. Installations in hundreds of buildings have proved that, considering their unusually long life, **they are the most economical shades obtainable.**

Upon request we will be glad to send you a list of buildings in your City, which are equipped with Athey Perennial Window Shades.

Athey Products
Perennial Window Shades
Cloth-Lined Metal Weatherstrips
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Athey Company

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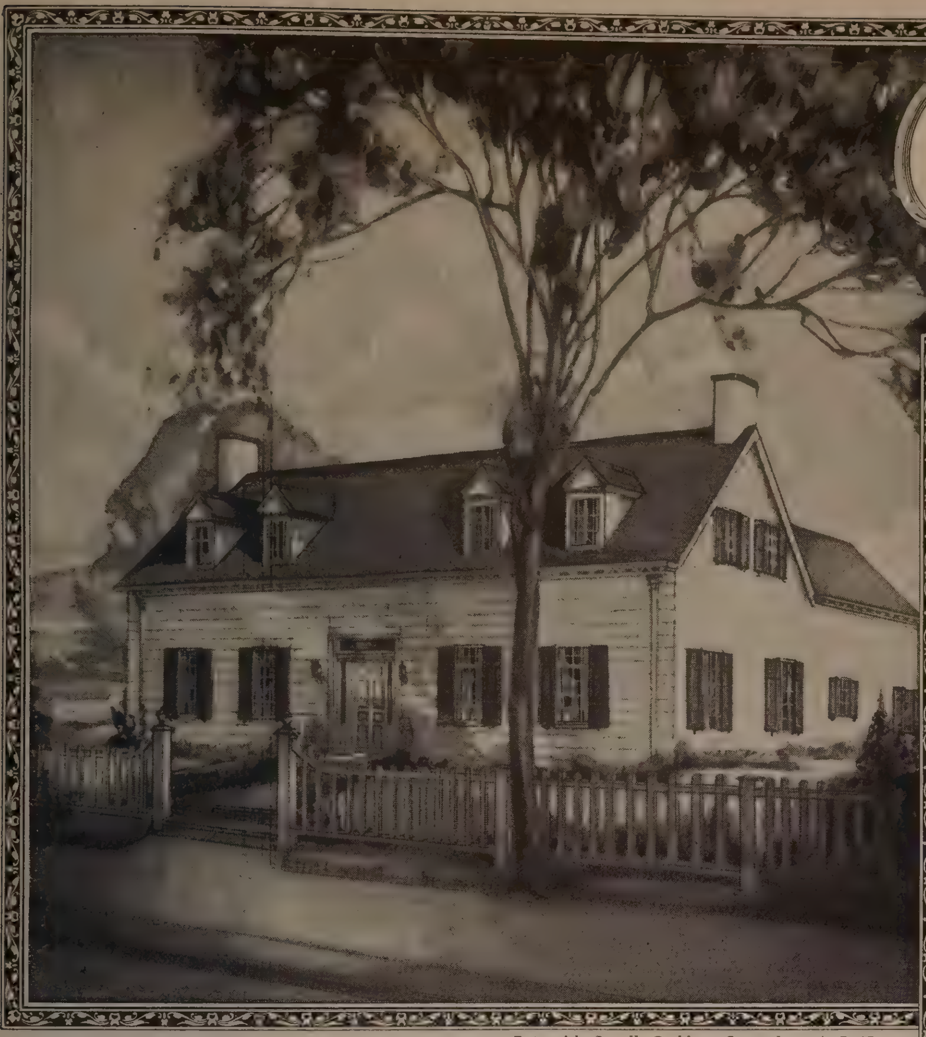


Painted by Lurelle Guild *Copyright 1926, P&L*

The House that Went to Paris!

Any architect who admires fine enamel work would have found this Early American Home finished with Vitralite, *the Long-Life Enamel*, of unusual interest. This unique home—the combined gift of a number of American business concerns to the French Republic—was first erected and exhibited in Brooklyn where it was visited by 81,672 people. It was then shipped to France for inspection in the Grand Palais, Paris, at the Exhibition of Household Appliances and Labor Saving Devices.

The great spreading properties, large coverage and resulting economy of Vitralite explain the high cost of cheap enamels. So-called enamels, paint-like enamels do not hide, spread, cover and flow without brush marks as does Vitralite.

Guaranteed for three years, whether used *outside* or inside, it seems as if Vitralite lasts indoors almost indefinitely.

Vitralite Gloss is made in White, Ivory, Cream, Putty Gray, Chinese Blue and Leaf Green; Eggshell finish is obtainable in all but the last two shades.

The Pratt & Lambert Architectural Service Department will co-operate with you at any time.

Vitralite
The Long-Life Enamel

Not only was Vitralite, *the Long-Life Enamel*, chosen for the woodwork of "The House that Went to Paris," but "61" Floor Varnish, another Pratt & Lambert Varnish Product, was used on all the hardwood floors.

This American Home is no mere exhibition house. Although it is of the Colonial cottage type, it contains 12 rooms; is 57 feet wide and 48 feet deep.

The house was originally erected in Brooklyn, N. Y., at Eastern Parkway and Washington Avenue. Designed by Mr. Carl L. Otto, architect, it was as carefully and solidly built as if it were to remain on this site permanently and was completely finished and furnished in every detail. Opened to the public by the American Committee for four weeks, 81,672 people, by official count, availed themselves of the opportunity of viewing its beautifully decorated and furnished interior.

Following the four weeks showing in Brooklyn, the home was carefully taken down in sections, stowed aboard ship and sent on its way to Paris. At the close of the exhibition in Paris, the house, entire equipment and furnishings will be awarded by competition, and again taken down, moved and permanently erected on a lot, also awarded, to make some deserving French family supremely happy!

To have been invited and accorded the privilege of participating in this unique exhibit and gift to the French Republic, is considered an honor which adds luster to the fame of Vitralite, *the Long-Life Enamel*, and "61" Floor Varnish.

In a less notable, but equally practicable manner Vitralite, "61" Floor Varnish, and other Pratt & Lambert Varnish Products are daily protecting and beautifying fine houses, apartments, public buildings, schools and churches.

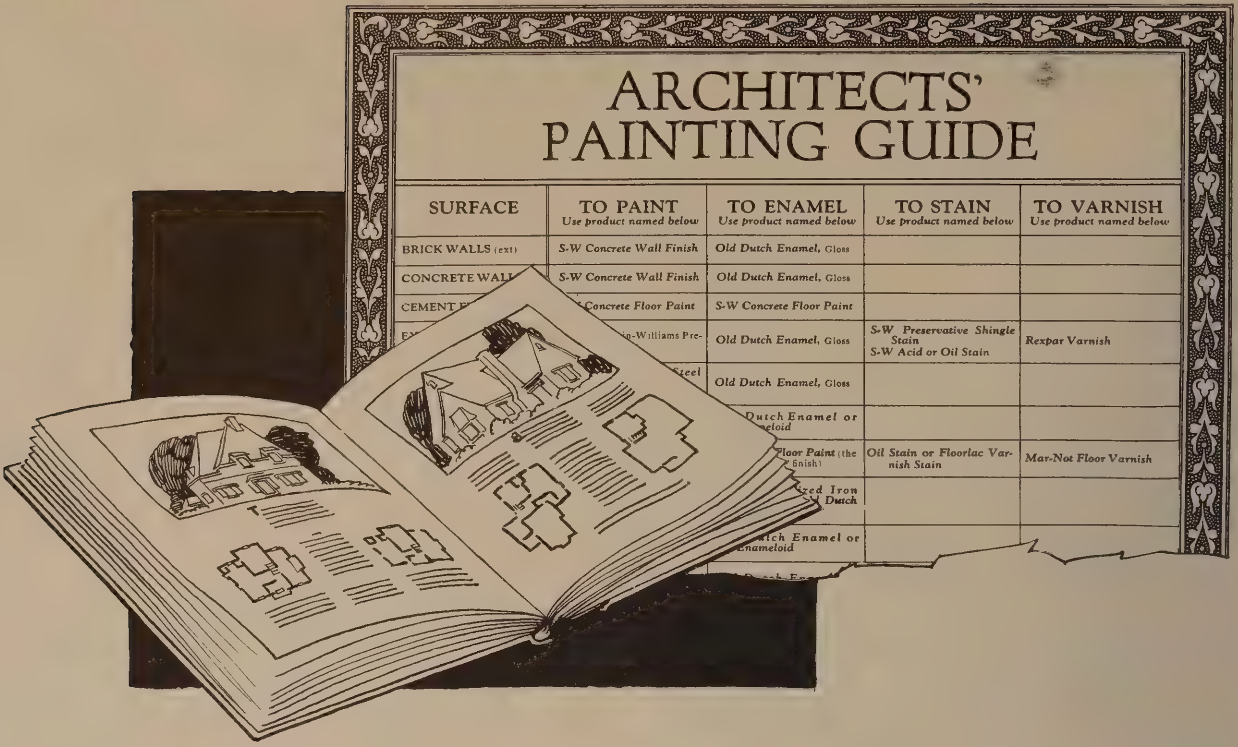
To thousands of architects these products are old stand-bys. These architects know that backing the statements made for these products, is a broad manufacturing experience dating back to 1849. By reason of constant laboratory tests and research work, a high standard is not only maintained but improved upon.

Vitralite
Vitralite

"Save the surface and you save all" Paint & Varnish

Pratt & Lambert-Inc., 122 Tonawanda St., Buffalo, N. Y.
Canadian Address: 34 Courtwright St., Bridgeburg, Ontario.

PRATT & LAMBERT VARNISH PRODUCTS


ARCHITECTS' PAINTING GUIDE
SURFACE
TO PAINT Use product named below
TO ENAMEL Use product named below
TO STAIN Use product named below
TO VARNISH Use product named below
BRICK WALLS (ext)
S-W Concrete Wall Finish
Old Dutch Enamel, Gloss
CONCRETE WAL
S-W Concrete Wall Finish
Old Dutch Enamel, Gloss
CEMENT F
Concrete Floor Paint
S-W Concrete Floor Paint
in-Williams Pre-
Old Dutch Enamel, Gloss
S-W Preservative Shingle Stain
S-W Acid or Oil Stain
Rexpar Varnish
Steel
Old Dutch Enamel, Gloss
Dutch Enamel or
eloid
Floor Paint (the
finish)
Oil Stain or Floorlac Varnish Stain
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tch Enamel or
Enameloid

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YOUR time is too valuable to give paint the study it deserves.

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Especially when it is condensed on a single page!

This Architect's Painting Guide was developed by Sherwin-Williams to assist architects in selecting the best and most durable finish for every surface.

Back of the guide is the practical knowledge of our technical staff. And back of it is the cumulative knowledge gained through sixty years of experience in the manufacture of paints, varnishes and allied products.

We know that the Guide is scientifically correct. We know that the materials recommended will furnish more protection and outlast materials chosen at random or left to the discretion of one who is not thoroughly familiar with paint chemistry.

It is not intended to supplant the architect's judgment, but to reinforce it. For that reason we think you will find it of practical value. We would like to send you a copy. The coupon will bring it.

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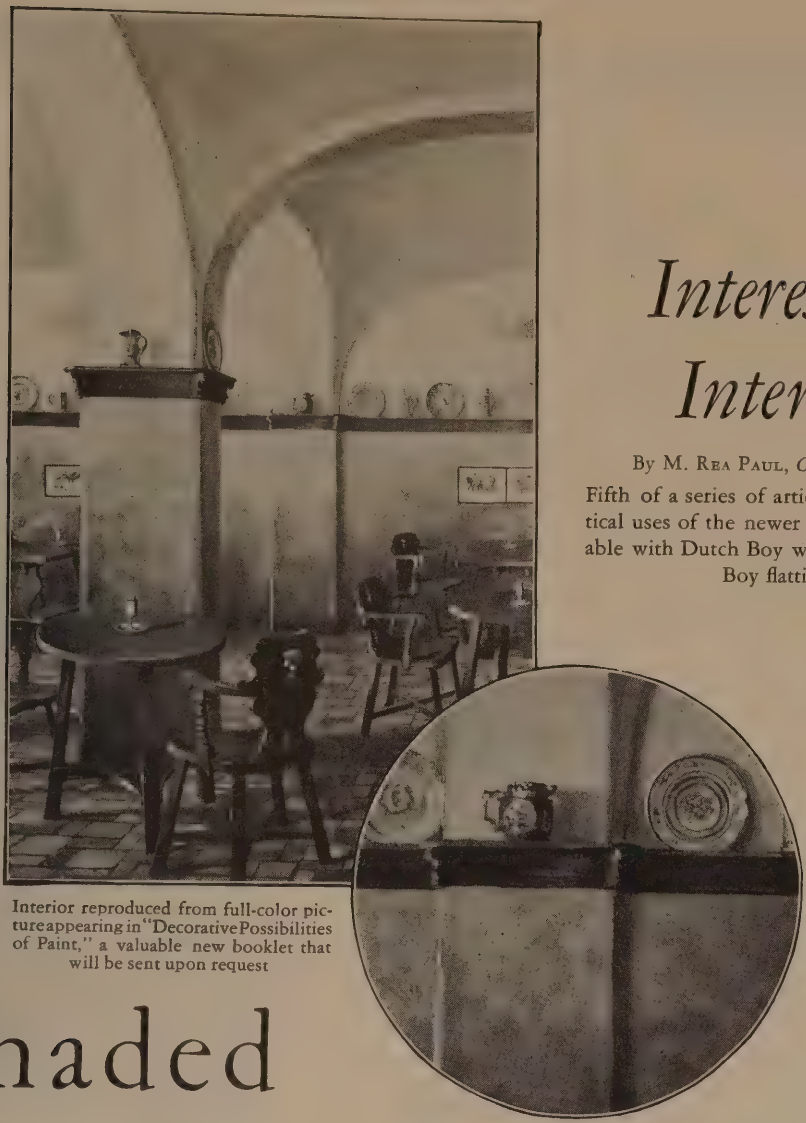
Interesting Interiors

By M. Rea Paul, *Consulting Colorist*

Fifth of a series of articles discussing practical uses of the newer wall finishes obtainable with Dutch Boy white-lead and Dutch Boy flatting oil



An effective use of the Shaded Tiffany Finish in the grill-room of a hotel. By careful blending and gradual shading, an illusion of increased height has been produced

Interior reproduced from full-color picture appearing in "Decorative Possibilities of Paint," a valuable new booklet that will be sent upon request

Close-up showing the gradation of tone obtained by using the Shaded Tiffany Finish in the room illustrated

The Shaded Tiffany Finish

MUCH of the charm of this attractive grill comes from the exquisite blending of colors employed on the side walls. This effect is known as the Shaded Tiffany Finish—so named because it is gradually shaded from dark coloring at the base to the lighter first coat at the top.

This effect may be employed either in panels or as an all-over wall treatment, as a means of giving the appearance of increased height. Starting at the baseboard or wainscoting in deep, rich, carefully blended tones, the Shaded Tiffany extends toward the ceiling line, gradually thinning out until at the top there is scarcely more than the undercoat color showing. It is this careful blending and gradual shading that creates the illusion of increased height.

Where to use it

The Shaded Tiffany Finish can be rendered either on smooth or rough finished plaster, but the best results are secured on the smooth surface. In addition to the hotel grill, the Shaded Tiffany may be used to advantage on the side walls of the hotel lobby or corridor, in the assembly room of the school, the entrance hall of the apartment, the chapel of the church, the dining room of the home, the depositors' room of the bank, or the smoking room of the club or theatre. The blend may be of warm browns and reds and yellows, or it may take the form of cooler colors, such as green and blue. An ivory undercoat is usually employed.

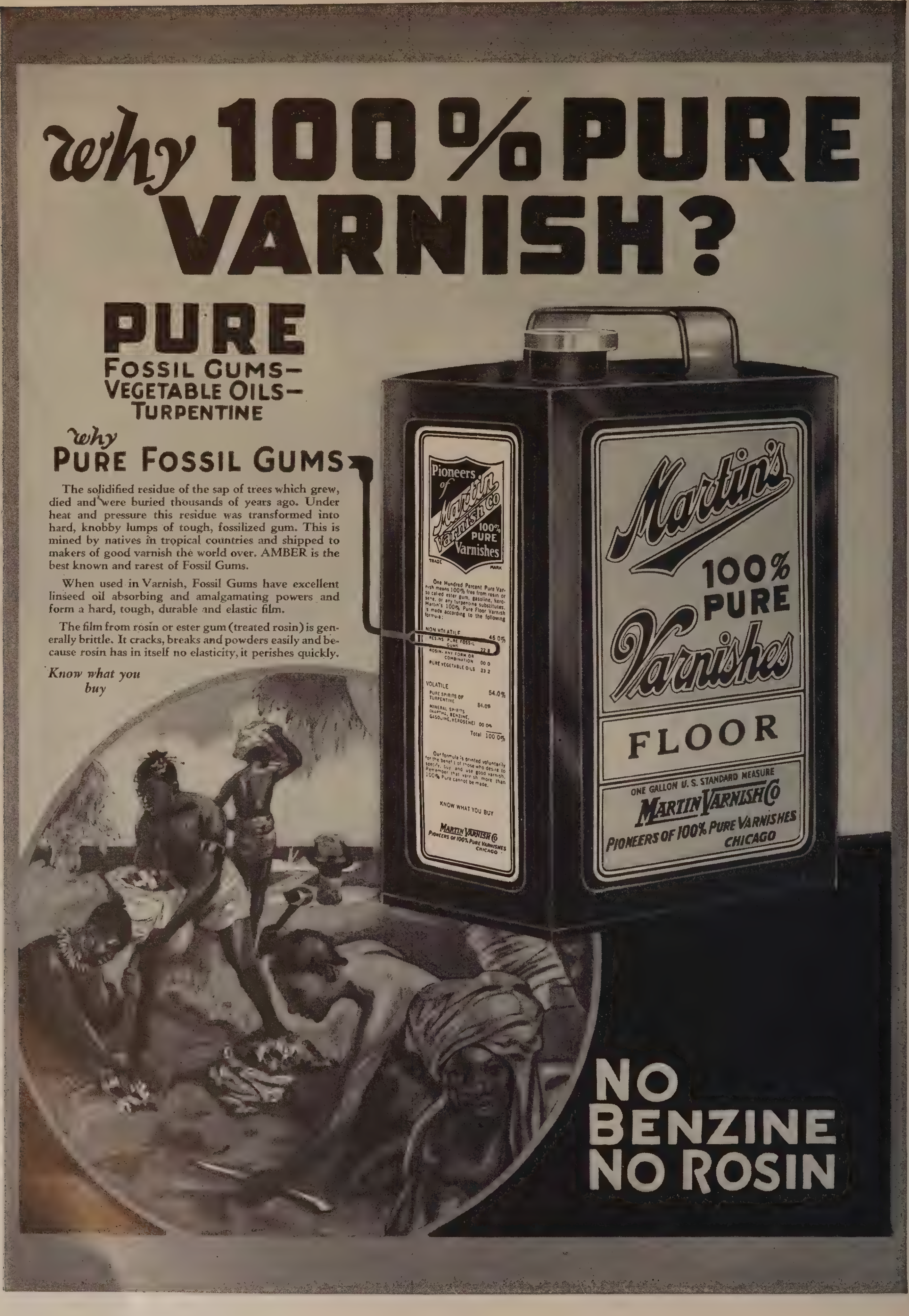
Send for Booklet on Distinctive Finishes

Complete directions and formulas for producing the Shaded Tiffany Finish are contained in a new booklet in color, "Decorative Possibilities of Paint." In it also are instructions for obtaining many other interesting finishes with Dutch Boy white-lead and Dutch Boy flatting oil. A copy of this booklet will be sent you if you will write our nearest branch. Color specialists in the Department of Decoration of National Lead Company will be glad to assist you, without charge, in planning decorative wall treatment you have in mind. Address them in care of our nearest branch.

"Save the surface and you save all"

NATIONAL LEAD COMPANY

New York, 111 Broadway; Boston, 131 State Street; Buffalo, 116 Oak Street; Chicago, 900 West 18th Street; Cincinnati, 659 Freeman Avenue; Cleveland, 820 West Superior Avenue; St. Louis, 722 Chestnut Street; San Francisco, 485 California Street; Pittsburgh, National Lead & Oil Co. of Penna., 316 Fourth Avenue; Philadelphia, John T. Lewis & Bros. Co., 437 Chestnut Street.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100% PURE Varnishes
TRADE MARK
One Hundred Percent Pure Varnish means 100% free from rosin or so called ester gum, gasoline, kerosene, or any turpentine substitutes. Martin's 100% Pure Floor Varnish is made according to the following formula:
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Our formula is printed voluntarily for the benefit of those who desire to specify, buy and use good varnish. Remember that varnish more than 100% Pure cannot be made.
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CHICAGO

why 100% PURE VARNISH?

PURE
FOSSIL GUMS—
VEGETABLE OILS—
TURPENTINE

why
PURE FOSSIL GUMS

The solidified residue of the sap of trees which grew, died and were buried thousands of years ago. Under heat and pressure this residue was transformed into hard, knobby lumps of tough, fossilized gum. This is mined by natives in tropical countries and shipped to makers of good varnish the world over. AMBER is the best known and rarest of Fossil Gums.

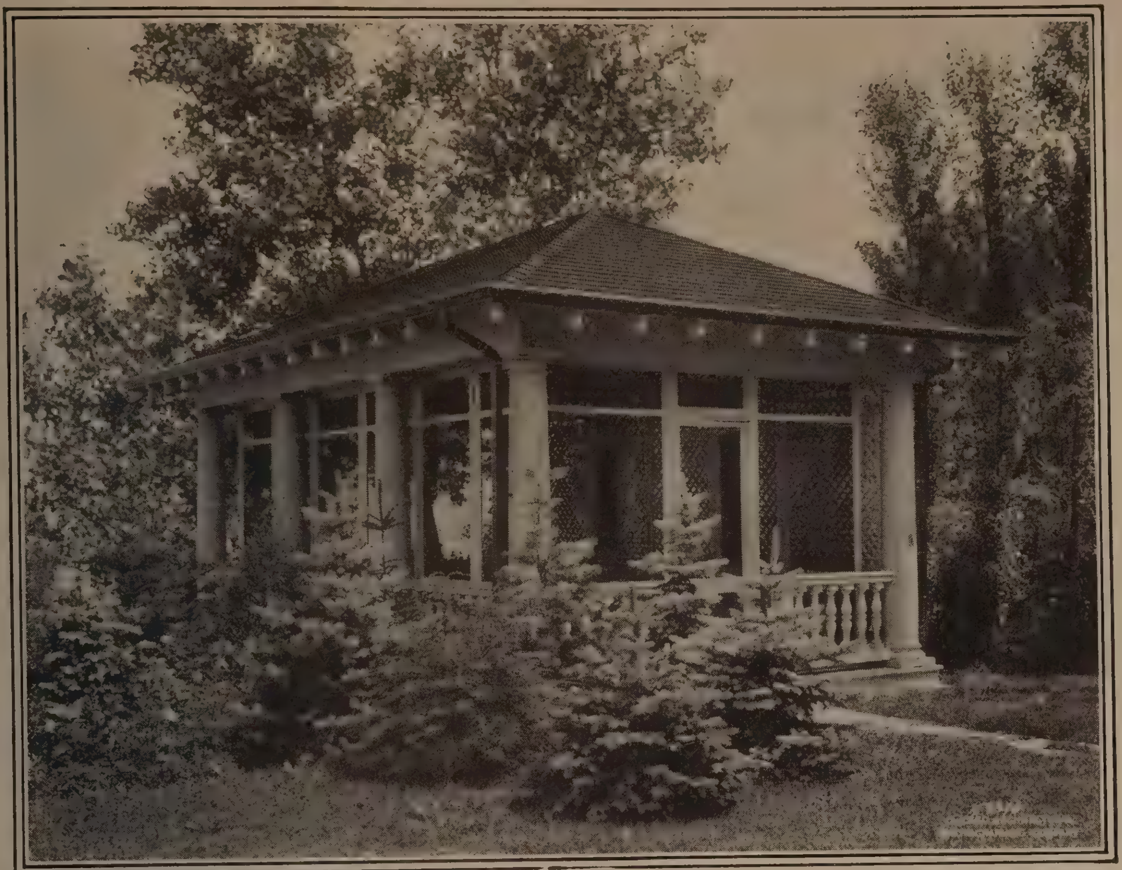
When used in Varnish, Fossil Gums have excellent linseed oil absorbing and amalgamating powers and form a hard, tough, durable and elastic film.

The film from rosin or ester gum (treated rosin) is generally brittle. It cracks, breaks and powders easily and because rosin has in itself no elasticity, it perishes quickly.

Know what you buy

NO
BENZINE
NO ROSIN

STABILIZED BY KOLL LOCK-JOINT COLUMNS



Garden House, Estate of Edgar Crilley, 375 Sheridan Road, Winnetka, Ill. CHATTEN & HAMMOND, *Architects*

Specify columns which cannot come apart!

On a picturesque eminence overlooking beautiful Lake Michigan stands the attractive Hartmann-Sanders garden house pictured above.

To insure a high order of permanence and enduring beauty for this classic feature—to safeguard it against year after year of spray laden storms and wind, its designers specified sturdy Koll Columns—the columns with patented lock joints which cannot come apart.

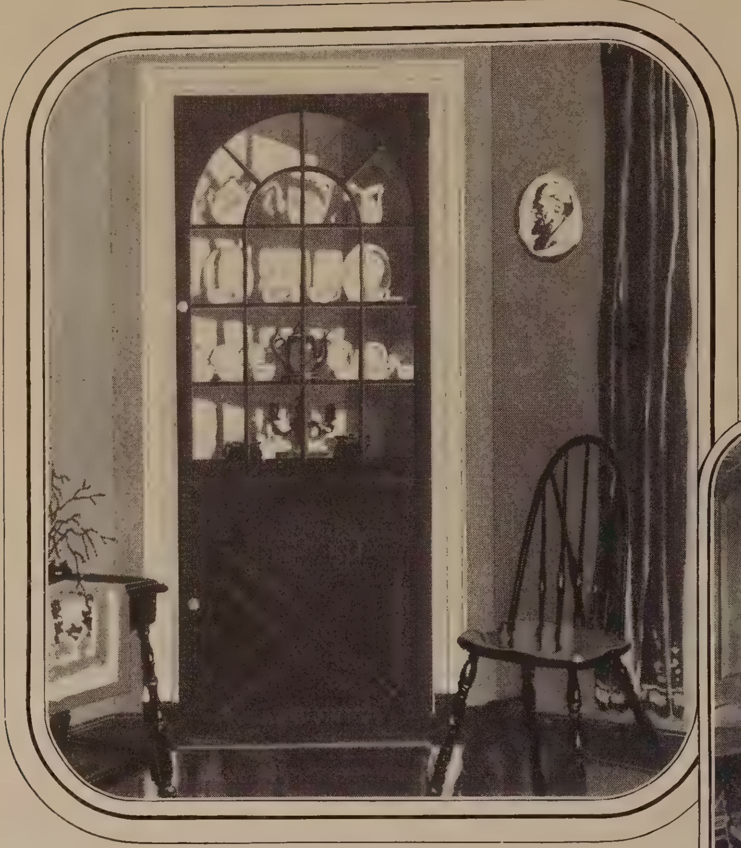
Hartmann-Sanders supplied not only the columns but also all other material used in this beautiful garden house. Catalog I-47 of Columns, or new catalog I-51 of Colonial Entrances gladly sent on request. Address Hartmann-Sanders Co., 2151 Elston Ave., Chicago, Illinois. Eastern office and show room, 6 E. 39th St., N. Y. City.

HARTMANN-SANDERS

Colonial KOLL LOCK-JOINT COLUMN *Columns*

THEY CANNOT COME APART

146



Below is a room now in the new American Wing of the Metropolitan Museum of Art, New York City. The woodwork, including the china closet, is from a house built in Newington, Connecticut, about 1735. At the left is the Curtis China Closet (C-703) copied from this original.

The ORIGINAL

of this China Closet is in the Metropolitan Museum of Art

IN the designing of every article of Curtis Woodwork, the best precedents have been followed by the architects, Trowbridge and Ackerman.

This Curtis China Closet C-703 is an example. It is a copy of one that was recently put on view in the new American Wing of the Metropolitan Museum of Art, New York City.

The arched-top doors and crossed rails in the lower door are interesting details that show an Old England influence. Hence, this china closet can be used not only in Colonial work but it is also appropriate to houses in the English style. It is often used in Spanish and Italian houses, especially when stained. The raised panels and moldings are of such a character that a charming piece of permanent furniture is produced when the design is either painted or stained.

This Curtis China Closet is made in plain oak or unselected birch, with a triangular back to set across a corner, measuring not less than 2′ 9¼″ each way along the wall; rough opening, 6′ 9½″ high; countershelf, 2′ 9″ high.

C-703 is one of many designs of Curtis Woodwork, which includes every kind of exterior and interior wood details—doors, windows, trim, stair parts, cabinetwork, porch material. Every design is carried in usable sizes and woods, *in stock.* Consult your dealer on this important point.

See the Curtis Dealer nearest you or write on your letterhead for full particulars and a portfolio of Curtis Details (free).

The Curtis Companies Service Bureau
456 Curtis Building, Clinton, Iowa

Curtis Door & Sash Co., Chicago, Illinois; Curtis Sash & Door Co., Sioux City, Iowa; Curtis Detroit Co., Detroit, Michigan; Curtis Bros. & Co., Clinton, Iowa; Curtis & Yale Co., Wausau, Wisconsin; Curtis, Towle & Paine Co., Lincoln, Nebraska; Curtis, Towle & Paine Co., Topeka, Kansas; Curtis-Yale-Holland Co., Minneapolis, Minnesota; Curtis Companies, Inc., Clinton, Iowa. Eastern Sales Office: 25 W. 44th St., New York City.

Good Construction Too

Beauty is not the only value that such Curtis Woodwork as this china closet offers. For example: Note Fig. 1. The shelves rest on nickeled pins (A), set in holes in the sides of the cabinet; hence they are adjustable in height and are removable for cleaning. Figure 2 is a cross-section of the bottom door showing the "raise" in the beveled panel, which adds so much to the beauty of the door. This china closet is made with a triangular back to set in a corner. Fig. 3 shows a sectional plan. In Fig. 4 you see that the edges of the shelves are beautifully molded instead of presenting a flat, uninteresting front. This case may be installed in your present dining room economically if you have 2′ 9¼″ of clear wall space in one corner. It is 7′ ⅝″ high over all.

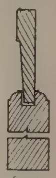


FIG 2

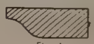


FIG 4

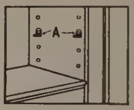


FIG.1

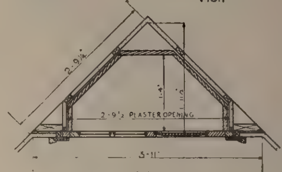


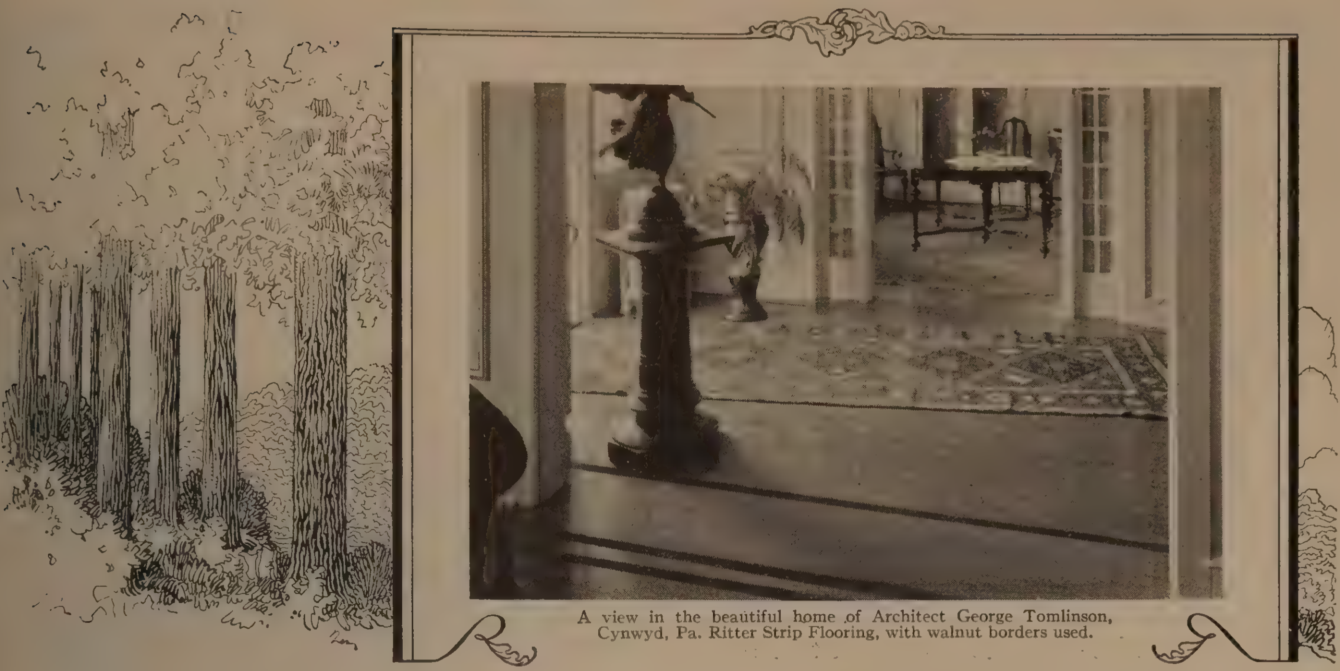
FIG 3

1866 CURTIS

Curtis Woodwork is sold by Curtis dealers east of the Rockies. Make sure the woodwork you buy bears this trademark. The makers of Curtis Woodwork are proud to identify their products by it

CURTIS WOODWORK

DOORS · WINDOWS · FRAMES · MOLDINGS · TRIM · BUILT-IN CABINETWORK



A view in the beautiful home of Architect George Tomlinson, Cynwyd, Pa. Ritter Strip Flooring, with walnut borders used.

How to make sure of beauty *in* Oak floors

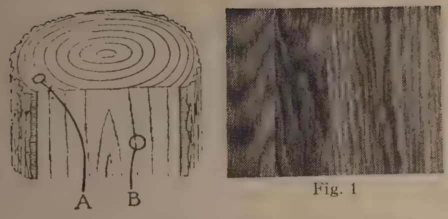


Fig. 1

These illustrations show the effect of timber growth upon flooring. Fast growth causes the wide annular growth rings (A) which produce the coarse grain (B). Fig. 1 illustrates a panel of flooring made of rapid growing oak. Such flooring lacks the beauty and dignity characteristic of finer material.

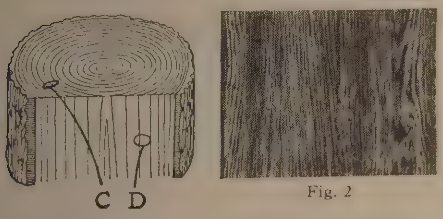


Fig. 2

On the other hand, slow timber growth, which depends on favorable climate, soil and drainage, results in close annular growth rings (C) which in turn produce fine, even grain (D), typical of Ritter Appalachian Oak Flooring (Fig. 2), the use of which assures the most beautiful oak floors.

NEITHER grain nor texture is considered in the Standard Rules for grading Oak flooring, yet these important qualities are essential to elegance and refinement in Oak floors; therefore, when you wish to provide your clients with the utmost in floor beauty, it is necessary to give serious consideration to the character of the grain, texture and color in the brand of flooring you are to name in your specifications.

Smooth, even texture and fine grain in Oak flooring are the result of slow, even growth of the timber from which it is finally made. This slow, even tree growth is due to favorable conditions of climate, soil and drainage which are found at their best in the Appalachian Region, famed for the superiority of its oak for purposes where beauty is the prime requisite.

Ritter Oak Flooring is manufactured exclusively from timber obtained from the Appalachians, and for ready identification each piece is branded on the back, "W. M. Ritter Lbr. Co."

When you specify Ritter Appalachian Oak Flooring, your client is assured of getting the most beautiful Oak floors obtainable.

Note — The same qualities that enhance the beauty of Ritter Oak Flooring also make Ritter Appalachian Highland Oak Lumber superior for interior trim.

Write for free booklet of information.

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>
> In Long-Bell dry kilns, the resin in the wood liquefies, volatilizes and passes off in the curing, so that Long-Bell Douglas Fir lumber takes paints perfectly and retains it.
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> Long-Bell Douglas Fir lumber is cured in classes, according to sizes and grades . . . one class to the kiln room . . . hence properly cured.

Look for the Long-Bell trade-mark on the end of the piece. It is safe assurance of properly manufactured Douglas Fir lumber.

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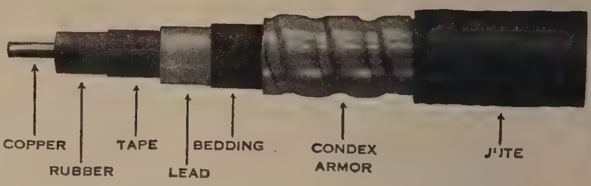
KNOW THE LUMBER YOU BUY

Condex Park Cable



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Condex Park Cable is intended for use on series lighting circuits for municipal street lighting, white way installations, and for park or playground illuminating systems.

Among Condex advantages is the fact that it can be laid in a shallow trench, thereby eliminating the expense of deep excavation.

Condex is armored with an overlapping, inter-locking steel tape, which due to its arch construction, completely covers the cable at all times, insuring protection against possible crushing. Condex installations properly made are practically permanent.

Condex has other advantages. It is smaller in diameter and lighter in weight, size for size, than any other park cable, therefore, it requires less labor to handle the same amount of cable and costs less to ship by freight.

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The preference for Brasco in the sales and service buildings of such outstanding cars as Buick, Cadillac, Packard, and others, surely indicates an unusual combination of both architectural merits and constructional advantages. Such recognition of superiority is naturally not confined to automobile makers, but finds acknowledgment as well from a host of other famous users—retail chains, individual shops, department stores, office and industrial buildings.

The individual details of Brasco construction are available to architects in the practical form of catalog, full size detail sheets and actual samples. A request will bring them.

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Ginter Company
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In addition to the complete Brasco Copper Store Front Systems, we are now able to offer the new DAVIS ARCHITECTURAL BRONZE SASH AND BARS. Ask for information.

Here nature has not left a thing undone. Everywhere the gifts of her magic touch are evident.

Sheltered amidst this wealth of foliage and sweeping boughs rests a stately mass of stone and brick shaped into the form of an Early English residence.

And the windows which permit the light and ventilation into its spacious rooms are, like the structure itself, built to serve indefinitely. They are Kawneer Nickel Silver Windows, noted for positive weathering.

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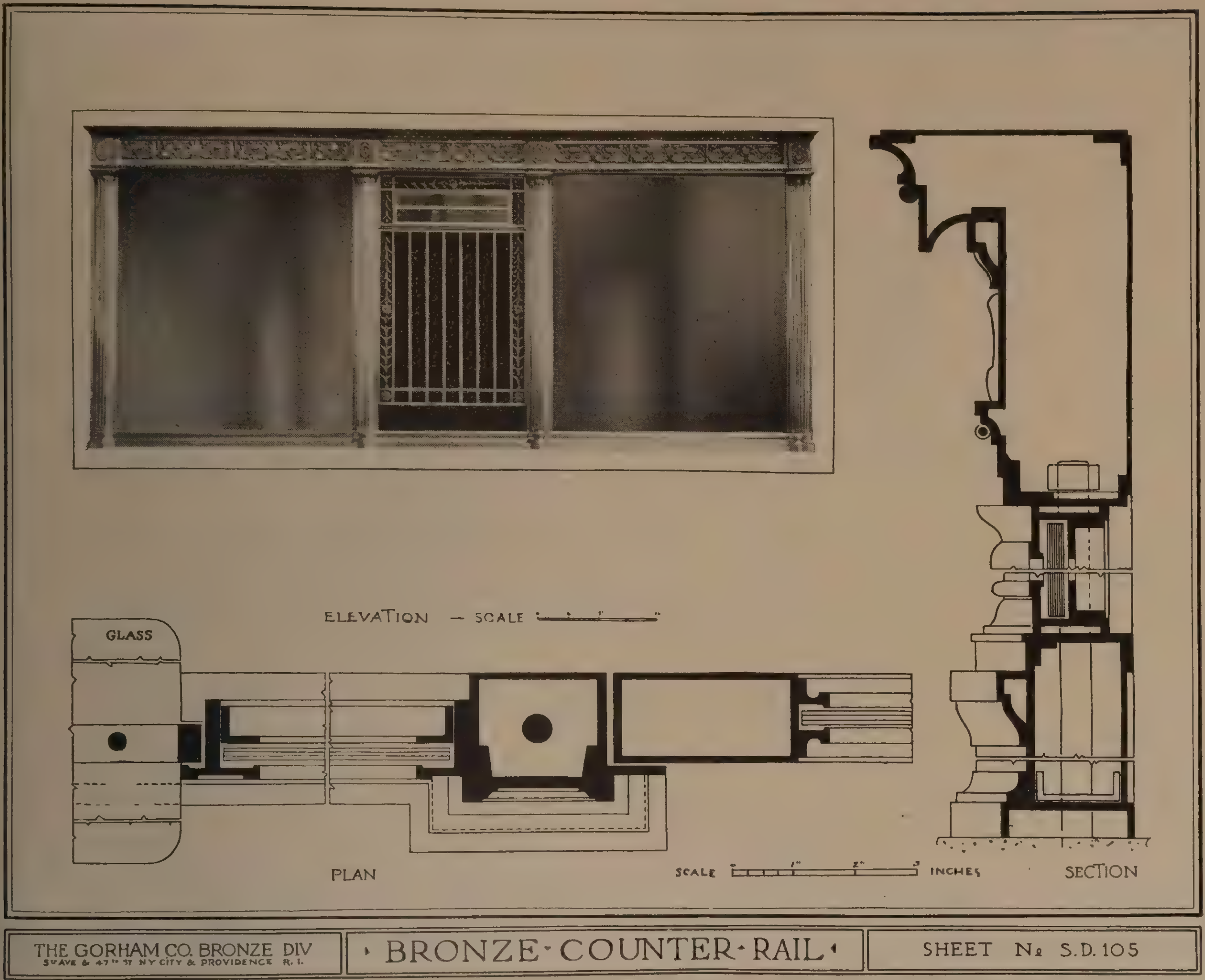
NILES, MICHIGAN

Patents Pending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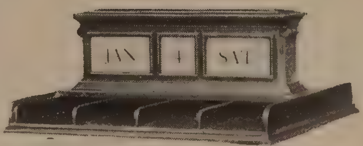

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- LAMP STANDARDS

How a fad 30 years ago

paved the way for Service Floors today

When the roller skating craze first hit the country, floors were given a new and more severe test than they had ever had before.

No flooring then in use could withstand the constantly shifting pressure and swaying weight from above these thousands of rolling wheels.

A new flooring had to be found—one that was harder than other kinds—one that would not splinter—one that would remain permanently smooth. And they found it—in Maple. Although it meant added expense in those days, Maple was used for roller skating floors because Maple alone could meet the difficult rink requirements.

Today in factories, where heavy trucks instead of roller skates are continually moving back and forth; in public buildings, stores and schools, where the floors must stand harsh treatment—far-seeing architects use Maple floors for these same reasons.

Maple and its closely related floorings, Beech and Birch, are tough fibred and tight grained. They do not splinter. They do not sliver. They are clean. They offer a wide range of opportunities for beautiful color harmony. They are unsurpassed for residential as well as industrial use.

Where you want service plus beauty in flooring, use Maple, Beech or Birch. We will gladly send more information about them and assist you in your flooring problems. Write us.

MAPLE FLOORING MANUFACTURERS ASSN.
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The letters **MFMA** on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve every particle of these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you use.

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Floor *with* Maple
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The ORIGINAL PAINE Miracle Door

A Miracle of Strength and Beauty

PAINE LUMBER COMPANY, Ltd.

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E. L. TILTON AND A. M. GITHENS, *Associated Architects*
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WHY should Boston "Tech," Johns Hopkins University, and Concordia College choose Duraflex-A Flooring? Because Duraflex-A is quiet — it eliminates the sound vibration created by ordinary flooring. It is super-durable, standing up under the constant pounding of countless feet. It is resilient, comfortable to walk on. It has a solid, seamless, rubbery surface that can be repaired when necessary or extended without visible seams. It is unusually easy to clean, and more sanitary. It is proof against water, fire, acids and alkalis. These reasons make Duraflex-A the ideal flooring for schools, office buildings, hospitals. Write today for full information.

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Beauty that doesn't wear off

THERE are scores of places where concrete can be used advantageously since Colormix made it available in permanent, attractive colors. Where it was once necessary either to sacrifice beauty or use more costly materials, Colormix has made possible lasting attractiveness with inexpensive concrete. For such places as porches, terraces, garden pools, clubs, display floors, office buildings, restaurants, basements, etc.—wherever beauty must be retained at low cost—Colormix has proved its permanence, serviceability and economy in hundreds of installations.

Colormix is the original, perfected and proven colored concrete hardener and is available in a range of nine attractive colors. Unlike ordinary coloring agents which weaken concrete, Colormix, by maintaining the full tensile and compressive strength, makes the concrete wear-proof as well as beautiful.

There are
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MASTERBUILT FLOORS

A Colormix porch of Linoleum Brown on the residence of Edward E. Bodge, Honolulu, H. I.

Gold Seal
Jaspé Linoleum

This reproduction shows the characteristic color-variegations of Gold Seal *Jaspé in actual size. But the actual richness of the coloring, the smoothness of the finish, can be conveyed only by the goods themselves. Send for samples.*

Jaspé—

With its unique blendings of soft colors *Gold Seal* Jaspé Linoleum is quite different from other types of linoleum. Its quiet richness and dignity add character to an interior and furnish a harmonious foundation for any decorative scheme.

In adding Jaspé to the *Gold Seal* line no pains were spared to produce a material whose excellence would make it stand out from all goods of this type. *Gold Seal* Jaspé possesses all the quality of *Gold Seal* Battleship Linoleum.

Unusual flexibility, resilience and durability make *Gold Seal* Jaspé pre-eminently adapted for large contracts—from the standpoint both of ease of laying and of the purchaser's satisfaction. The smoothness and lustre of its finish are markedly superior to that of any Jaspé on the market.

To provide permanent, decorative flooring for banks, offices, business buildings, clubs, hospitals and libraries, specify *Gold Seal* Jaspé Linoleum. Two new shades of gray and brown are available.

Made in three thicknesses: C gauge—2.40 m. m.—.094 inches; 1-8 in. gauge —3.60 m. m.—.142 inches; 3-16 in. gauge—4.80 m. m.—.189 inches.

May we send you samples of this remarkable new linoleum?

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LINOLEUM
GUARANTEE
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SATISFACTORY OR YOUR
MONEY BACK
REMOVE SEAL WITH
WET CLOTH

Congoleum-Nairn Inc.

Philadelphia New York Boston Chicago Kansas City Atlanta
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GOLD SEAL

Jaspé **LINOLEUM**

The ticket office of the Dollar Steamship Company, 604 Fifth Avenue, New York, N. Y., is floored with 1400 square feet of Linotile dark green and light gray, eight-inch square tile with ¼-inch white joints

"Public Service" Includes Comfortable Floors

BUSINESS organizations serving the general public find that Linotile floors help materially to make their offices cheerful, inviting and comfortable.

A Linotile floor is not only exceedingly attractive in appearance and almost noiseless, but its resilience, comfort underfoot and non-slippery surface never fail to elicit many favorable comments.

Furthermore, Linotile stands the wear. It is surprisingly tough and gives remarkable service even in front of counters where the traffic is heaviest. It is not readily stained or marred, is easily kept clean, and needs no varnishing or refinishing.

A sample of Linotile and a copy of the book, "Linotile Floors for Public and Semi-Public Buildings," containing full information and specifications, will be sent on request.

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Division of Armstrong Cork Company
132 TWENTY-FOURTH, STREET, PITTSBURGH, PA.
Also manufacturers of Armstrong's Cork Tile

Some Other Interesting Installations of Linotile Floors

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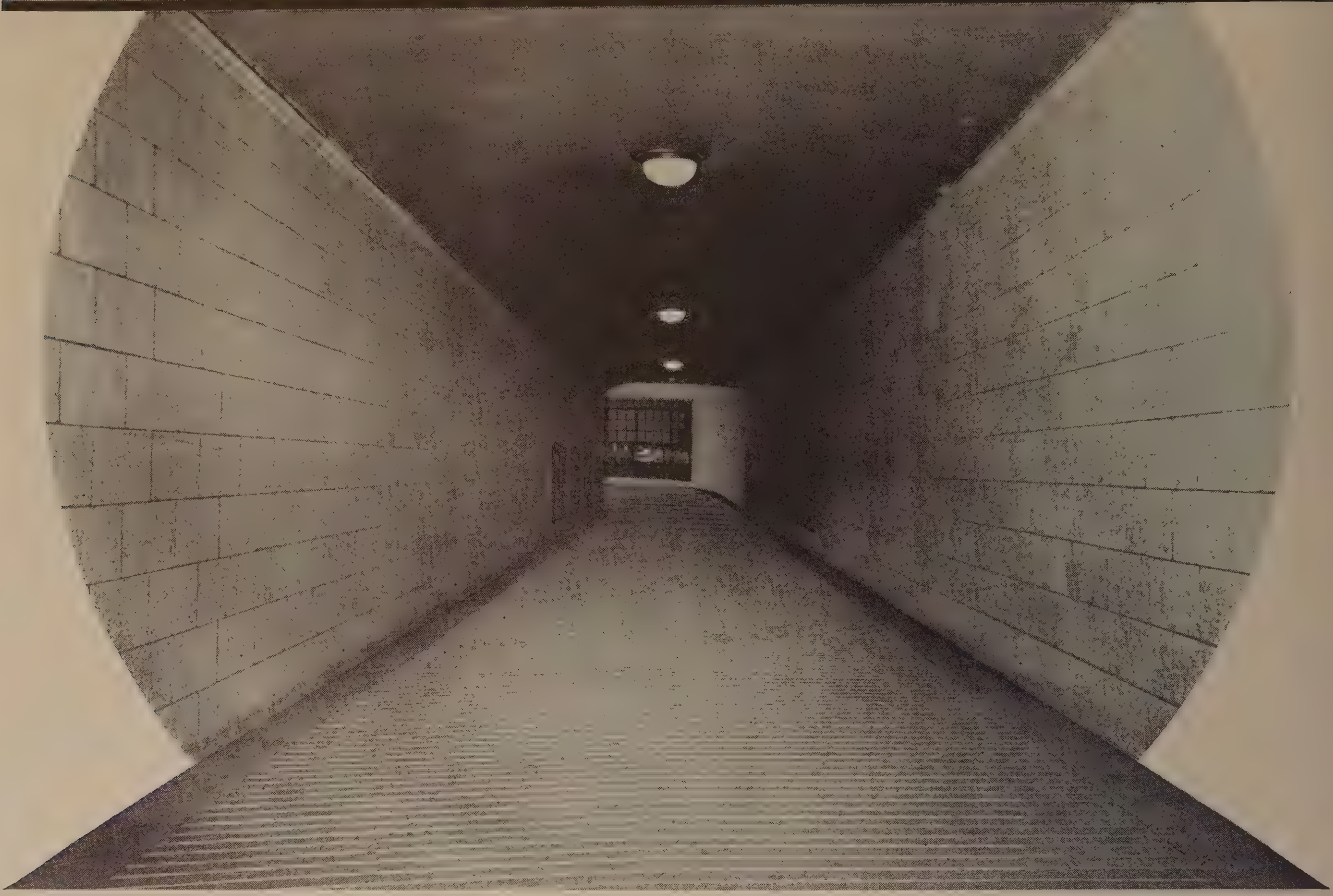
- Sinton Hotel, Cincinnati, Ohio.
- H. C. Stutz Motor Car Co., Indianapolis, Ind.
- Lexington Leader Co., Lexington, Ky.
- Columbia Hospital, Wilkinsburg, Pa.
- Colonial Trust Co., Pittsburgh, Pa.
- American Loan & Trust Co., Detroit, Mich.
- Cadillac Motor Co., Detroit, Mich.
- Breakers Hotel, Atlantic City, N. J.
- General Accident Ins. Co., Philadelphia, Pa.
- Oppenheim, Collins & Co., New York City.
- Quaker Ridge Golf Club, Scarsdale, N. Y.
- Jordan Marsh Co., Boston, Mass.
- The Winchester Store, Providence, R. I.

Linotile Floors

A Ramp Made Slip-Proof



Union Station, Chicago, Ill. Graham, Anderson, Probst & White, Architects, Alundum Aggregate Tile made and installed by Chicago Art Marble Company, Norton Licensee.

THE illustration shows a portion of the ramp leading from the Train Concourse of the new Chicago Union Station to Jackson Boulevard. It is 12 feet wide and the total length is approximately 185 feet. The total rise in the whole length is 30 feet. For the first 75 feet the pitch is 2½ inches to the foot. Present traffic is conservatively estimated at 35,000 people daily.

A similar ramp leads to Adams Street and in the north end of the station two ramps lead to Clinton Street.

All of the ramps have been made permanently slip-proof by the use of precast Alundum Aggregate Tile. The color combination is No. 1 grey Alundum Aggregates with Botticino marble chips and a little yellow coloring in the cement. For the steeper portions of the Jackson Boulevard and Adams Street ramps the tile is a special patented "ribbed" shape. Elsewhere it is standard 12 x 12 x 1".

NORTON COMPANY, WORCESTER, MASS.
New York Chicago Detroit Philadelphia Pittsburgh Hamilton, Ont.

NORTON FLOORS
Alundum Tiles, Treads and Aggregates

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The ideal corridor floor
Exceptional durability—noiseless—sanitary—decorative
United States Rubber Company

Corridor, Medina Hospital
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Miss Estelle Douglas, *Superintendent*

For full information address
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"U.S." TILE FLOORING

Banner

"Easy to spread--
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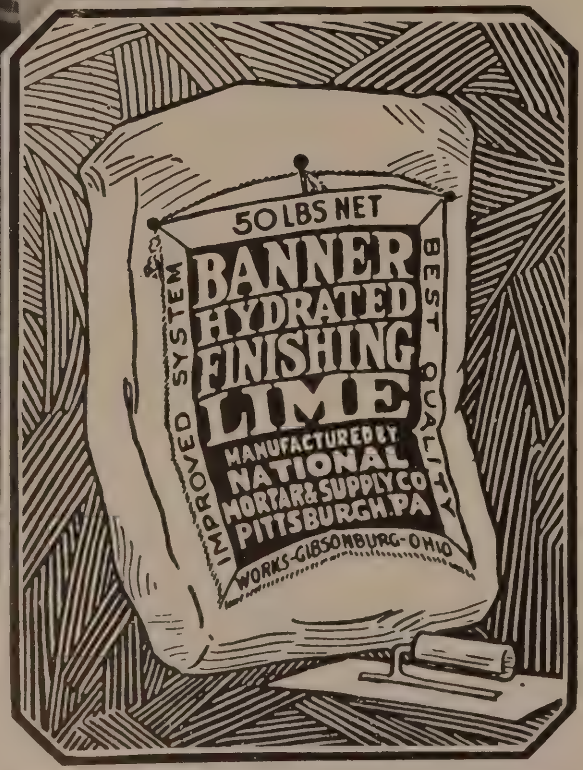
NATIONAL MORTAR & SUPPLY CO.

The unusual architectural design of this ceiling in the Benjamin Franklin Hotel at Philadelphia will remain intact for generations.

Not only was Banner Finishing Lime used for the plain plastering throughout the building, but the entire ceiling shown opposite is composed principally of Banner Lime—all moldings, beams, and vaulted surfaces being run in place—not pre-cast. The mixture consisted of 75% Banner Finish and 25% Plaster of Paris.

Executed by McNulty Brothers Company, Architectural Sculptors and Plasterers. Architect, Horace Trumbauer.

Dining Room, Benjamin Franklin Hotel, Philadelphia, Pa.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BEST QUALITY

FEDERAL RESERVE BUILDING PITTSBURGH, PENN'A

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Out of the Service Records of Cementile Roofs comes this unusual entry: *"Interlocking Cementile Roof, Hall Pump Co., Pittsburgh, Pa., comprising 7500 sq. ft., taken off and relaid on new Foundry at Cheswick, Pa. Efficient as the day it was placed on its first building."*

An assuring message of durability and quality to all who have Industrial Roofing Problems.

If you want the Roof that will resist every destructive element—the Permanent, Economical, No-Maintenance Roof—it will be "Bonanza" Cementile.

Laid directly on the roof purlins. Three types: Red Interlocking Tile for pitched roofs; Flat and Channel Tile for flat and pitched roofs where waterproof composition covering is desired.

Send Coupon for valuable Engineering Data on Industrial Roofing.

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Company.................
Street.................
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BEAUTY WITH CONCRETE CAN BE ACHIEVED IN ANY STRUCTURE THE ARCHITECT MAY ELECT TO DESIGN. BUILDINGS IN EVERY SECTION OF THE COUNTRY PROVE IT.

WILSHIRE BOULEVARD CHURCH

One of the many fine examples of monolithic exposed concrete

Architects · Allison & Allison · Los Angeles

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WHITE ENAMEL FINISH
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GOLD MEDAL FINISH
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HYDRATED LIME
WHITE LILY FINISH
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A plastering contractor had always used a certain finishing lime due to its cost. Recently he had a dwelling on which it was more convenient to use one of our brands.

According to this contractor's experience, the job usually required 45 sacks. We told him much less would be sufficient. Finally we compromised on 40 sacks.

When the job was completed, 6 sacks were returned unused!

More than one architect and contractor has found that the extra and easier spreading qualities of our finishing lime has more than offset the slight extra cost if any.

In the long run, does our finishing lime actually cost more?

Give any one of our brands a trial and judge for yourself. Sold everywhere by building supply dealers.

"Quality from stone to finish"

THE WOODVILLE LIME PRODUCTS COMPANY
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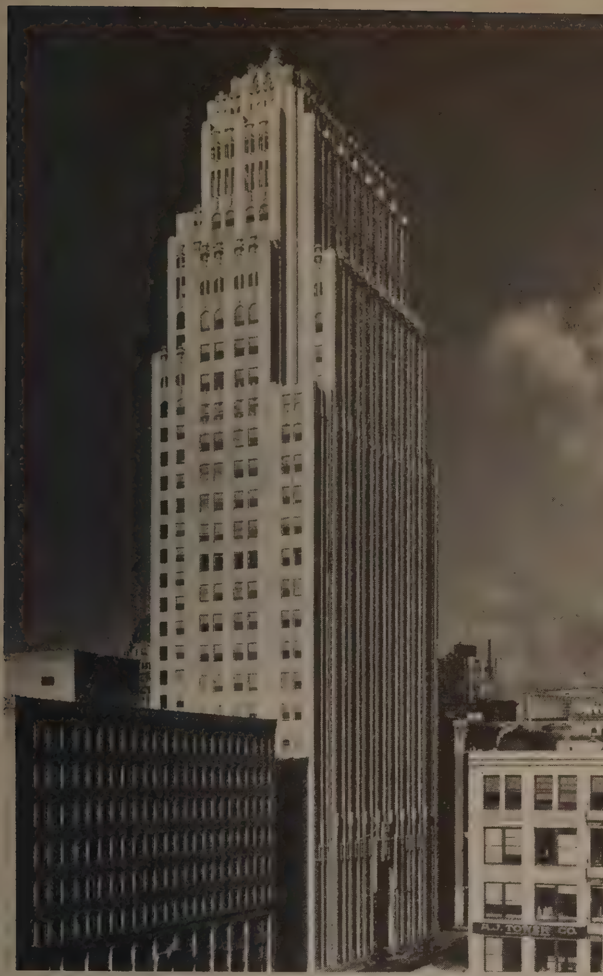
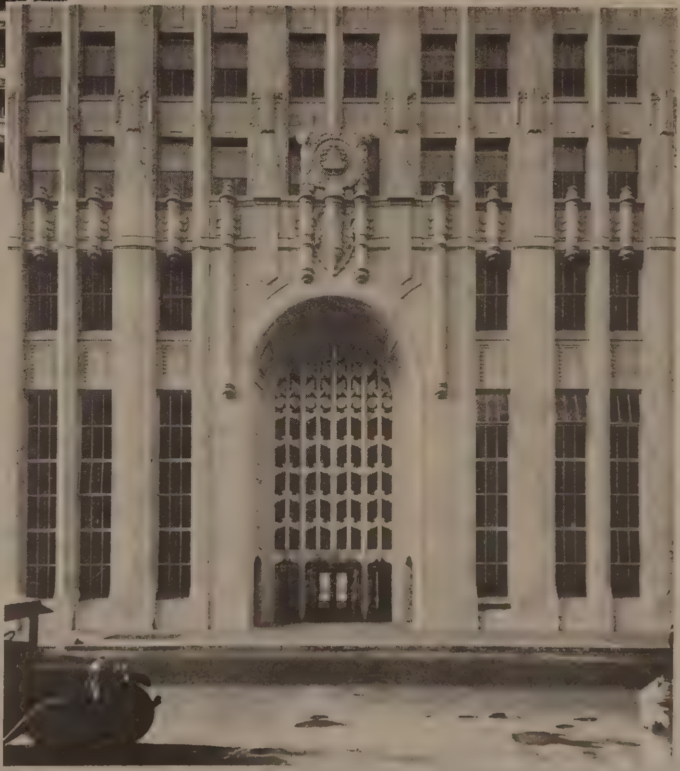
WHITE ENAMEL ~ GOLD MEDAL
AND WHITE LILY
FINISHING ~ HYDRATED ~ LIME



TERRA COTTA THE LOGICAL MATERIAL

Pacific Telephone & Telegraph Building, San Francisco, Miller, Pflueger & Cantin, Architects. Clothed entirely with Terra Cotta from sidewalk to roof.



This building strikingly demonstrates that when used throughout Terra Cotta meets beautifully the requirements of zoning law design. Mass and silhouette are given desirable grace through appropriate forms of decorative enrichment, and permanence of appealing color is assured by a readily cleanable surface.

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19 WEST 44th STREET NEW YORK, N. Y.

You've been waiting for it

You are constantly on the lookout for new and better ideas to incorporate in your plans.

Here's a new and better flooring; the thing you've wanted—Asbestone.

There's impressive proof of Asbestone's superior qualities in its rapidly growing popularity; and in the wide range of buildings of all types in which it is setting new standards of durability and adaptability to every architectural scheme.

Asbestone is always economical.

It is just the thing for schools, hospitals, churches; for Y. M. C. A.; apartment and office buildings; for clubs, restaurants, theatres, lodges, community centers.

You can *see* its advantages. Write us for a list of the many Asbestone installations; and for samples and prices.

1906-1926

Twenty years' successful experience in the manufacture of magnesia flooring is your assurance of the responsibility that stands behind an unusual guarantee.

Franklyn R. Muller, Inc., is the oldest and largest manufacturer of magnesia flooring—a flooring that should not be confused with mastic or any other flooring on the market.

This is your protection.

1906 MULLER 1926
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GUARANTEED PRODUCTS
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Assembly Hall, United Presbyterian Church, New Wilmington, Pa. Over 12,000 sq. ft. Asbestone installed.

FRANKLYN R. MULLER, INC.
501 Madison Street
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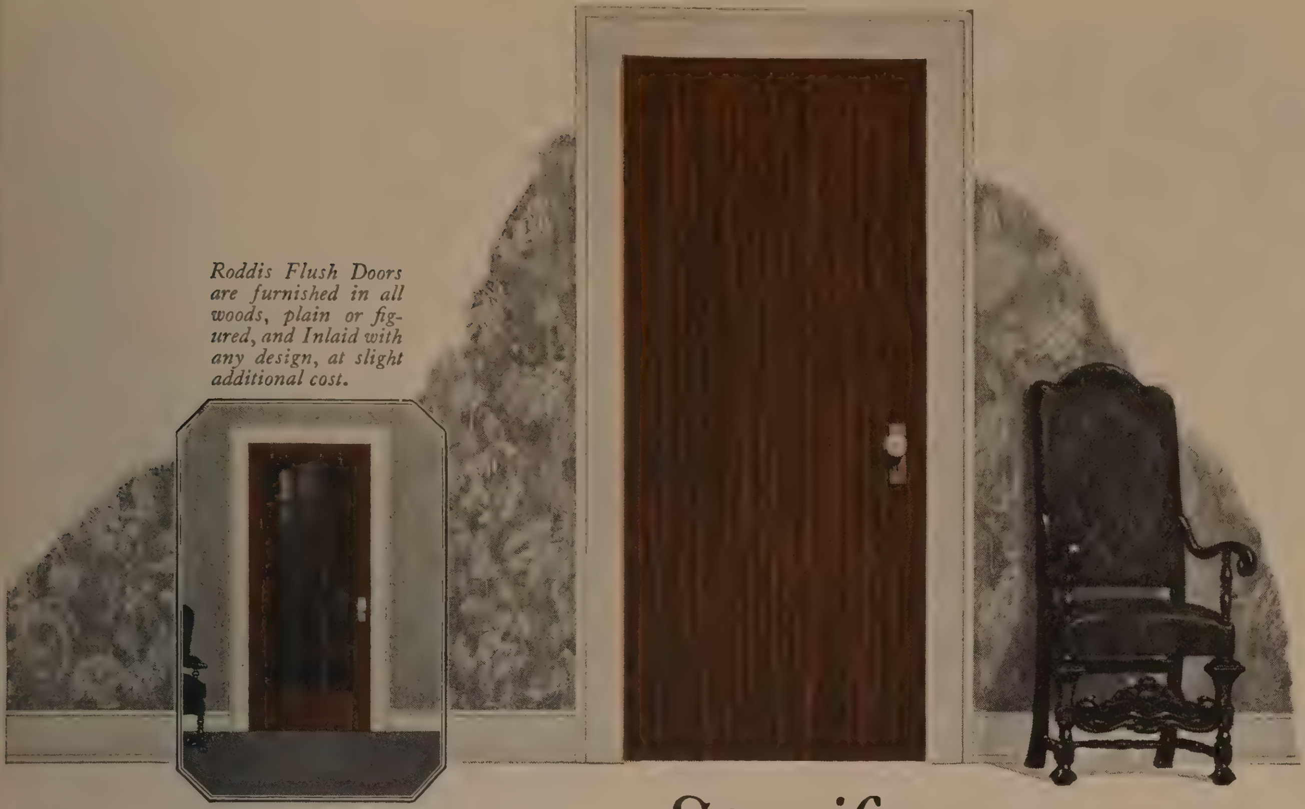

Roddis Flush Doors are furnished in all woods, plain or figured, and Inlaid with any design, at slight additional cost.

Specify
Beauty *and* Permanence

WHEN you specify Roddis Genuine African Mahogany Doors, you are conscious of the personal satisfaction which comes from knowing you have given your client the best.

To select or acquiesce to ordinary panel doors is false economy. For Roddis Doors can now be used at very little more cost. They *cannot* warp, sag, shrink or swell. They are soundproof, sanitary and fire-resisting. Their Beauty and Permanence are GUARANTEED for all time.

Roddis Doors are an investment in Beauty and Service. They harmonize with any architectural or decorative treatment. They greet you on entering the home. Leave a last impression as you depart. No feature of the house can be more conspicuously beautiful or more conspicuously unsatisfactory than its doors.

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RODDIS DOORS

GENUINE *African* MAHOGANY

Doors are the most conspicuous and important part of any building

Roddis Doors are guaranteed for all time against warping, shrinkage, swelling, sagging or separating. They are impervious to heat and moisture — water-proof.

Can be fitted snug in frame with no danger of trimming later.

Sound-proof. No thin, vibrating panels to carry or transmit objectionable sound.

Sanitary. No cracks, mouldings or panels to catch and provide lodging places for dust, dirt and dangerous germs.

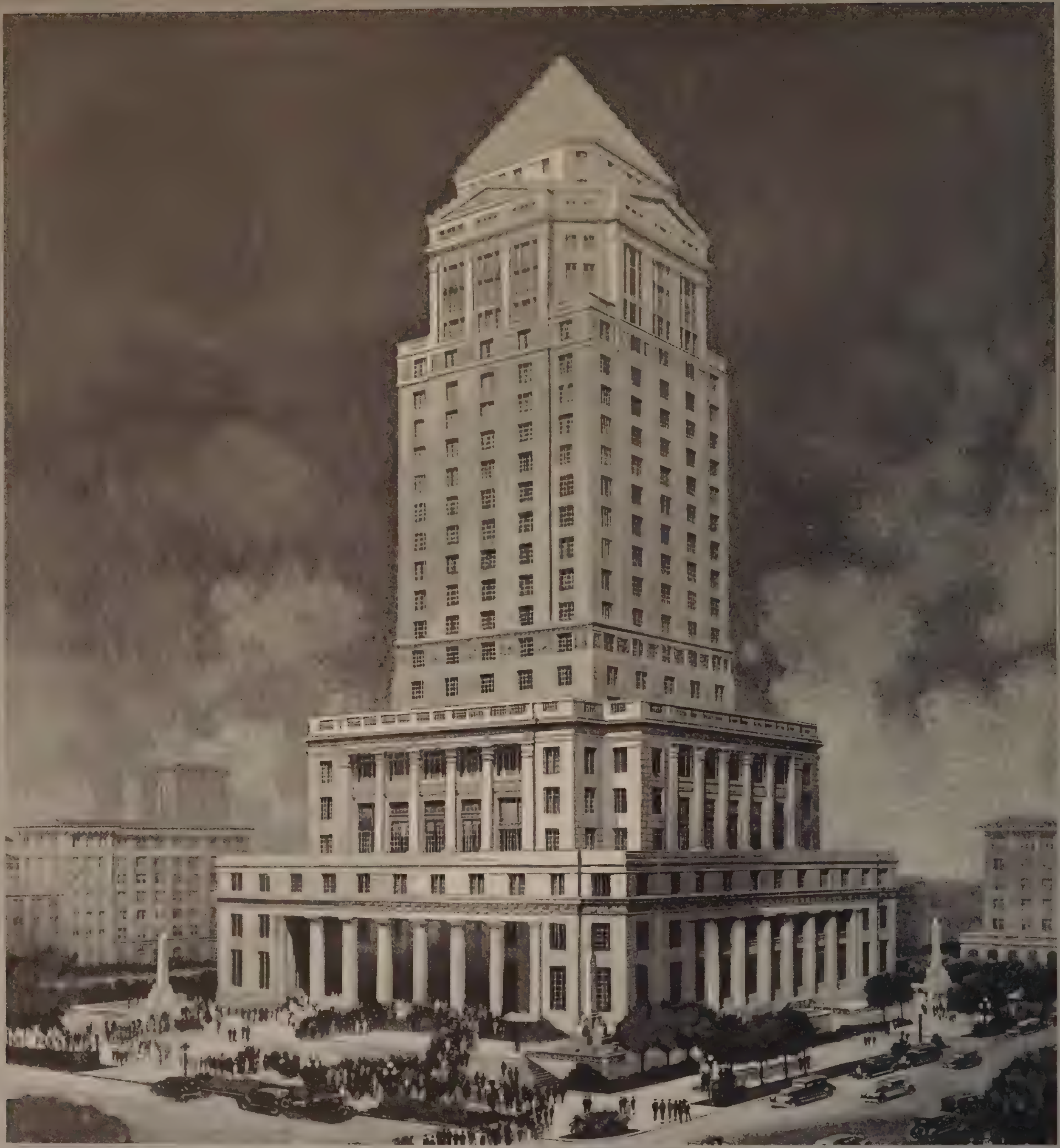
Fire-resisting. It takes over one hour for a blow torch to cut its way through a Roddis Door — less than three minutes to cut its way through an ordinary panel door.

RODDIS PLYWOOD *Made in all woods, plain or figured, and inlaid with any design, to meet requirements.*

Furnished in neat sizes — very little fitting — no later trimming — they cannot sag or swell.

Stocked in nearby warehouses, prompt delivery through your dealer in topnotch condition. No shop-worn stock delivered.

Enduring beauty. Roddis Genuine African Mahogany Flush Doors are a lasting investment in Beauty and Service. It is the one wood that improves with age. Today costs less than ever.



CRITTALL
Steel Casements

Dade County Court House, Miami, Fla., A. Ten Eyck Brown, Architect, August Geiger, Associate

Though intensely modern and practical, the massive pile of the Dade County Courthouse, now under construction, takes a magic touch of grace from its innumerable, delicate, skyward flowing lines.

Crittall Steel Casements with their slender steel members permit a great number of window openings and a vast lighting area without interruption to these beautiful architectural lines. They are easily adjusted for ventilation. Built to precise measurements by hand, they are guaranteed wind- and weather-tight.

All exterior openings of this structure will be Crittall Casements — one of the largest single solid-steel casement contract ever awarded in this country.

Our engineers will gladly assist architects in the solution of unusual window problems

CRITTALL CASEMENT WINDOW COMPANY, *Manufacturers*
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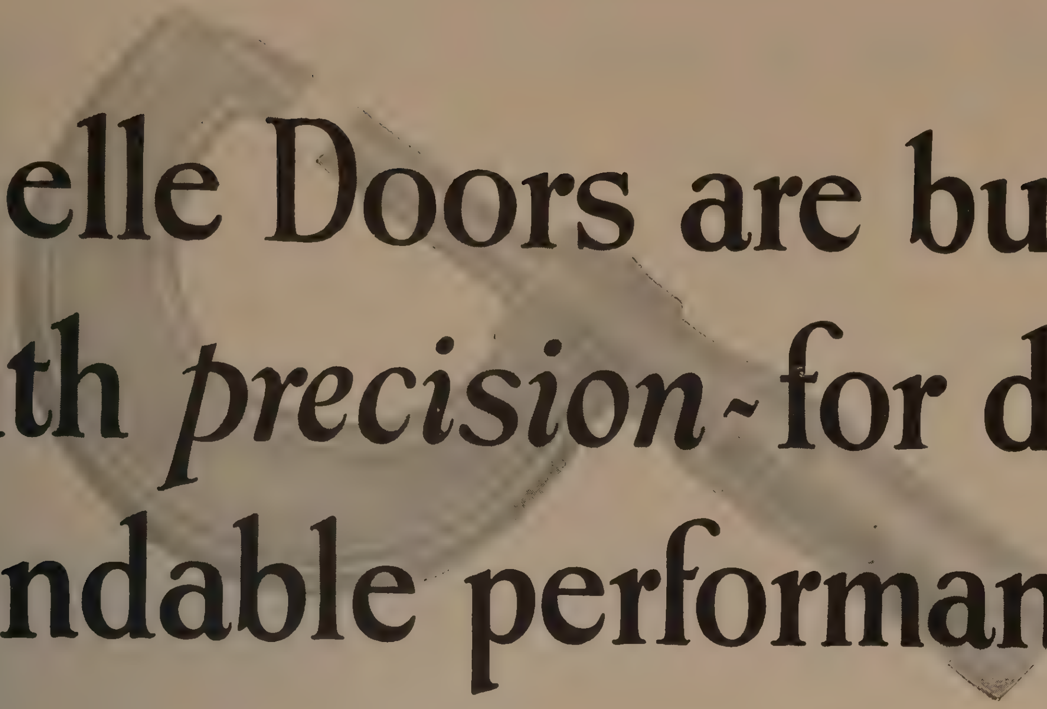
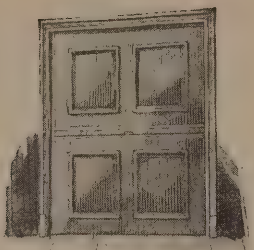
Also makers of Reswin Casements Standard Steel Windows for homes of moderate cost

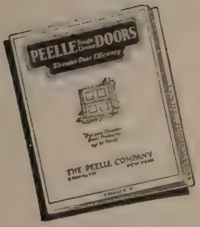


Peelle Doors are built with *precision* - for dependable performance



Peelle Kalamein Panelled Counter-balanced Door

PRECISION in design and craftsmanship....exactness in assembling component parts.... careful supervision...all necessary and expected attributes of Peelle Freight Elevator Doors. Installations in more than 7,000 buildings emphasize the ability of Peelle to perform with dependability and economy ~ ~ ~ ~ ~



The Peelle Catalog containing complete details will be gladly sent on request.

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THE PEELLE COMPANY · *Brooklyn, N. Y.* · *Boston* · *Chicago* · *Cleveland* · *Philadelphia and 30 other cities*

WEATHER STRIP Specifications *to be* Complete *must include* CALKING

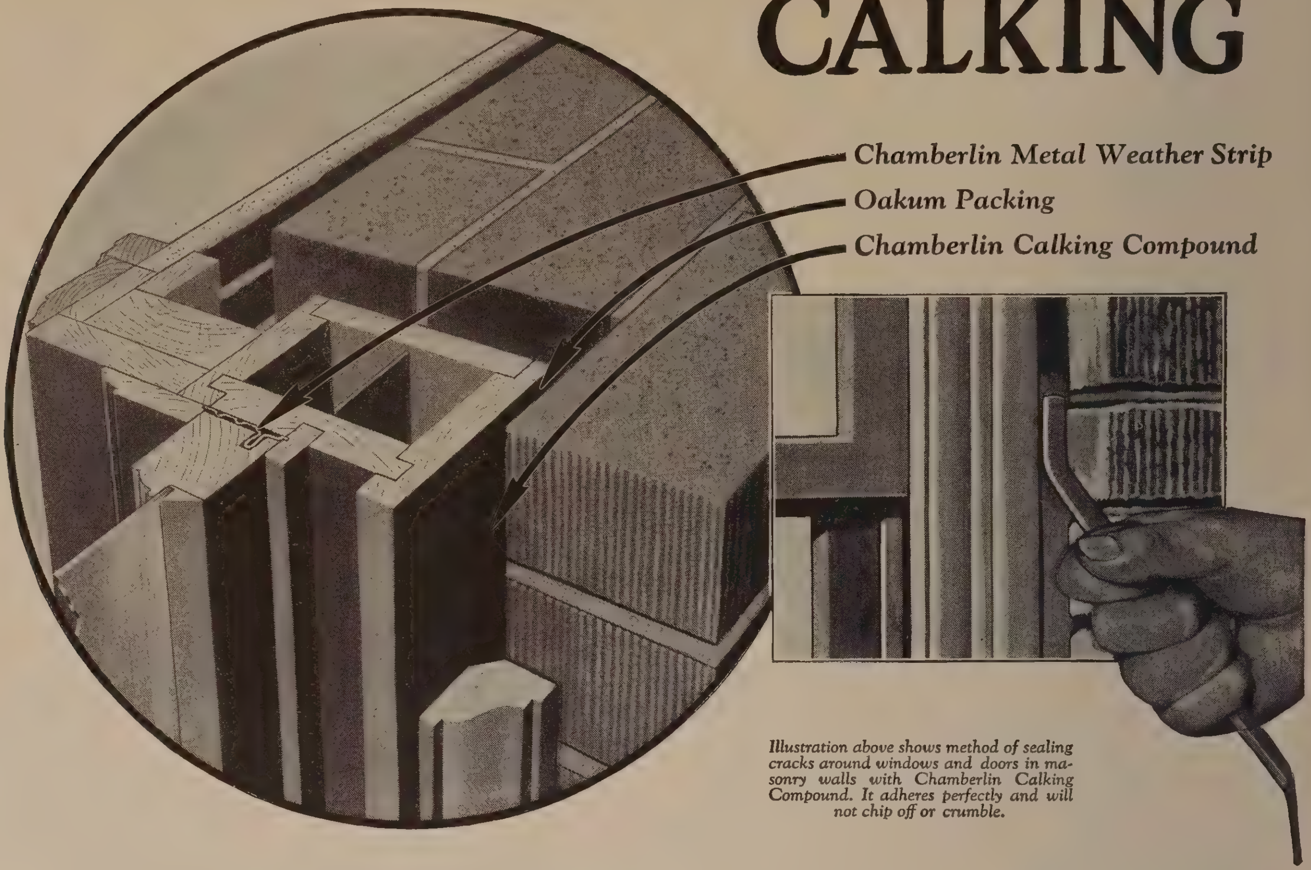

Illustration above shows method of sealing cracks around windows and doors in masonry walls with Chamberlin Calking Compound. It adheres perfectly and will not chip off or crumble.

IN masonry constructed walls, wooden window or door frames shrink at their entire perimeter, leaving a deep crevice all the way around. Metal frames cannot be fitted snugly and, therefore, a similar condition prevails.

Chamberlin Calking applied by Chamberlin mechanics will permanently seal this crack. It is applied from the outside and adheres perfectly because it permanently retains a semi-plastic consistency.

Chamberlin Calking around a window will seal out one-fifth as much air as is eliminated by weather stripping the sash. It will also keep out the soot, dust and rain that very often depreciate wall areas around windows and doors.

Chamberlin manufactures a complete line of weatherstripping equipment for every type of window and door. Chamberlin assumes full responsibility for the correct installation of Chamberlin equipment and guarantees both product and result for the life of the building.

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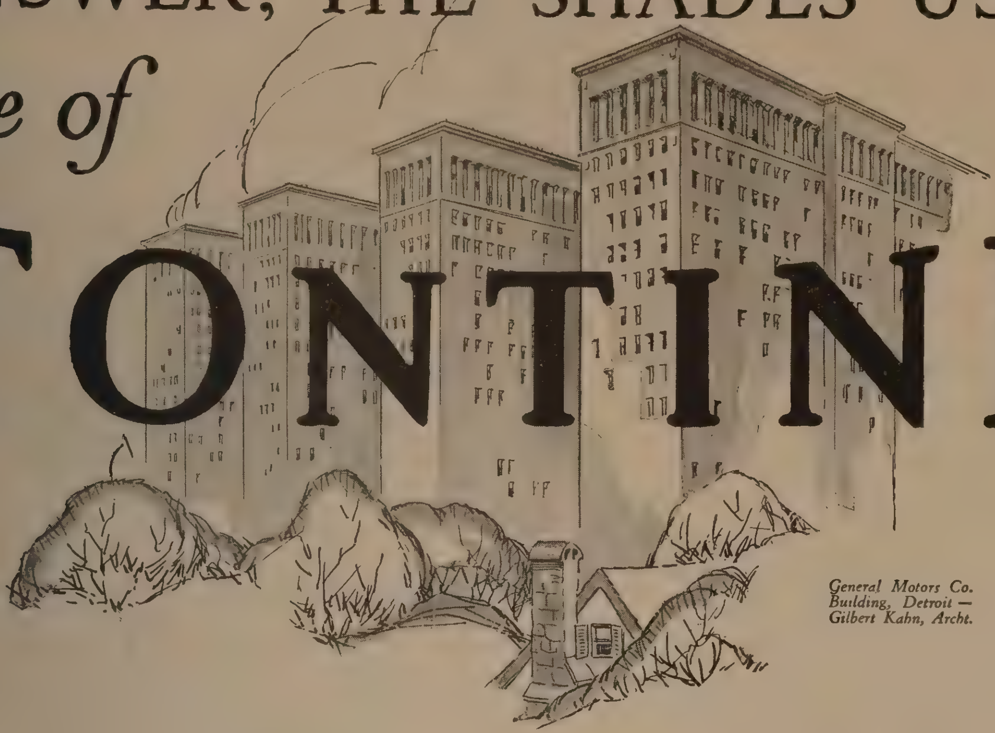
WHERE ONLY THE BEST WILL ANSWER, THE SHADES USED *are of* TONTINE



General Motors Co. Building, Detroit — Gilbert Kahn, Archt.

IT is not surprising to find such buildings as the General Motors Building, or the Gotham National Bank Building, N. Y., or the Cotton Exchange Office Building, Houston, Texas, are equipped with shades of du Pont Tontine. It would be surprising if they were *not!*

For today, architects and builders consider quality and durability of equipment just as important as details of design and construction. And Tontine is recognized as so far superior among shade fabrics that *there can be no other choice.*

Tontine window shade cloth, being *impregnated* with pyroxylin (the same, chemically, as the famous Duco), will not crack, check, fade or fray. After months of service, soap and water and a brush restore its original beauty. Thus it ends constant shade replacement and repair expense.

Special data and specifications are available for the use of architects. Correspondence is invited.

To keep Tontine clean and beautiful -just soap and water

WASHABLE
DU PONT
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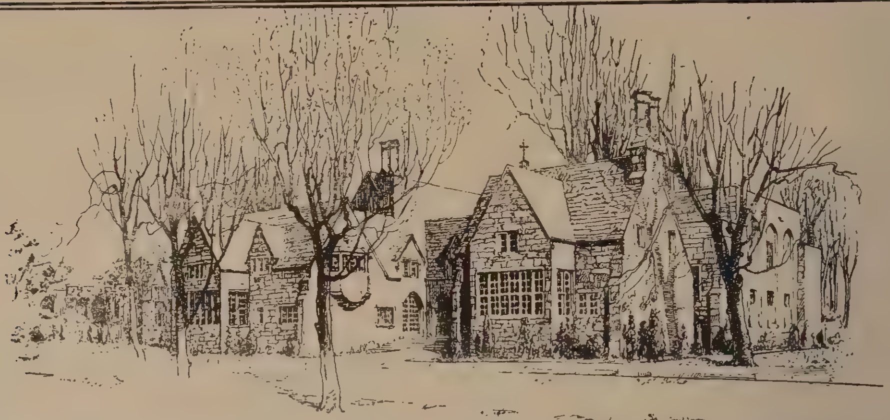
E. I. DU PONT DE NEMOURS & COMPANY, Inc., NEWBURGH, N. Y.



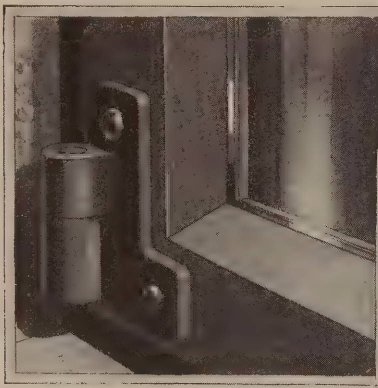
SUNDAY SCHOOL GROUP, Overbrook Presbyterian Church
DAVIS, DUNLAP & BARNEY, *Architects*, PHILADELPHIA

Thorn Steel Casements as used in Ecclesiastical Buildings

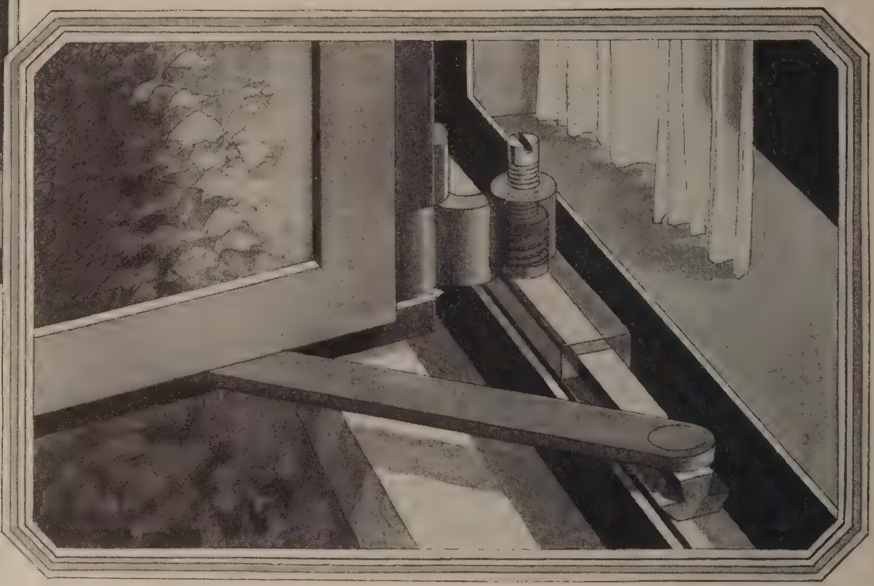
THE quality and utility of Thorn Steel Casements were deciding factors in determining upon their installation in these beautiful Sunday School buildings at Overbrook, Pa. They are equipped with the distinctive Thorn Cleaning Hinges (non-projecting) of solid time-resisting bronze. These hinges not only permit washing from the inside, but also hold the leaf, both at the top and bottom, securely in all positions, thereby eliminating troublesome sill adjusters, and rattling and unsatisfactory peg stays.

The steel sections in Thorn Steel Casements have long legs which make for better conditions for interior trim. All corners are mitered, electrically butt welded and ground smooth, producing a very rigid sash. The intersections of the muntins are neat flat joints electrically welded.

Further information on request



THORN
CLEANING HINGE
CLOSED



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J. S. THORN COMPANY

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1. Pressing down on the handle releases the automatic lock and allows you to—

Swing
2. Swing the handle to right or left and thus easily move the casement out or in.

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3. Release the handle and the automatic-lock takes hold, at once, securely!

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The same correct [positive-locking] principle is a feature of each. The simplicity of design and operation is the same. So whether parkerized or sherardized steel operators are installed and painted to match the trim, or whether solid brass or bronze ones are installed, the big thing—a satisfactory *result*—is assured.

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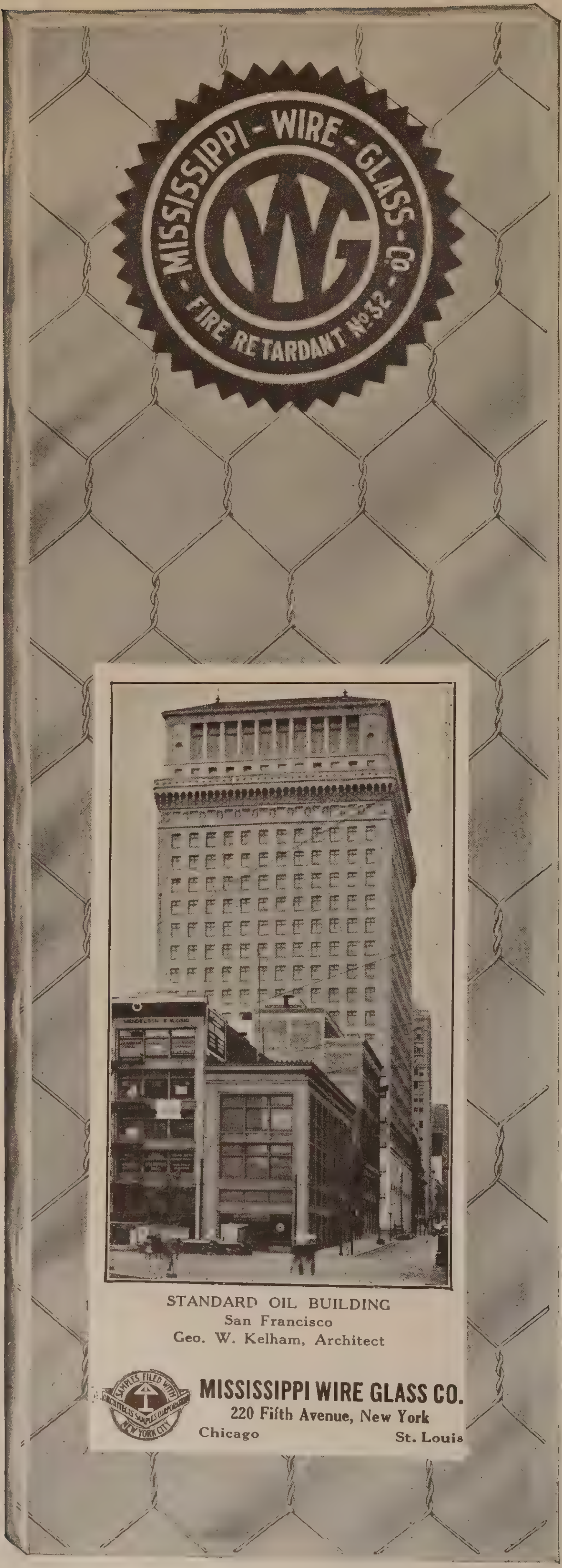
CASEMENT HARDWARE HEADQUARTERS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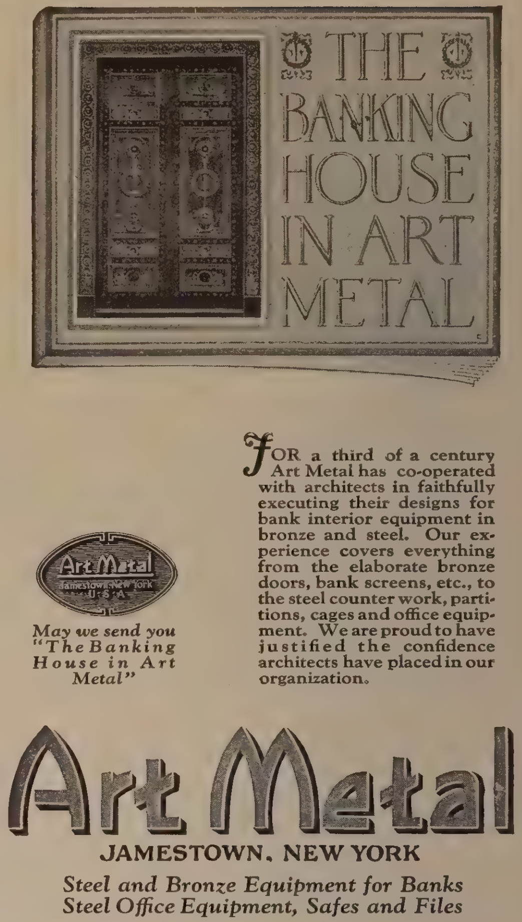
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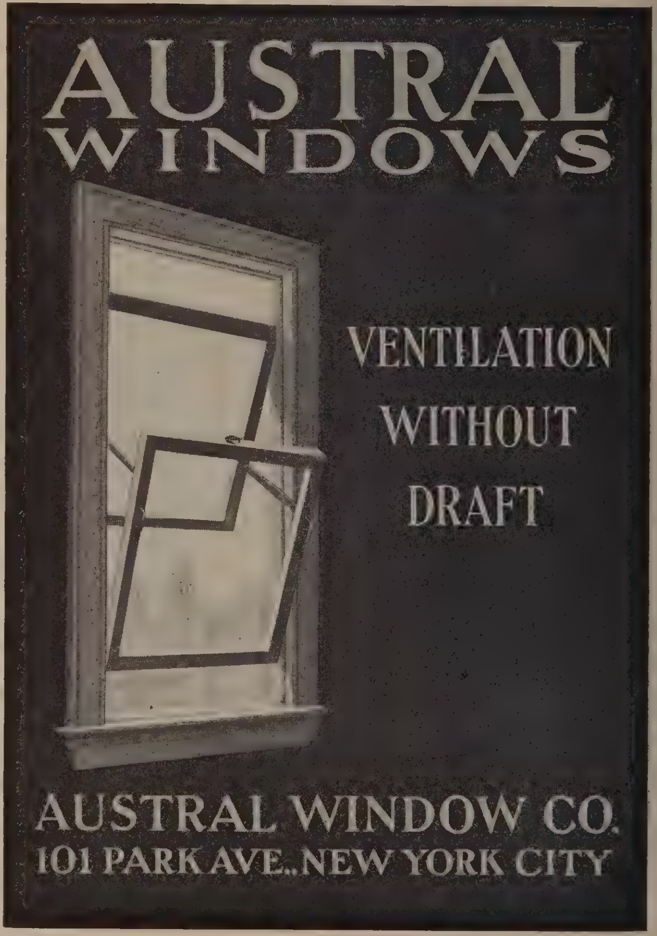
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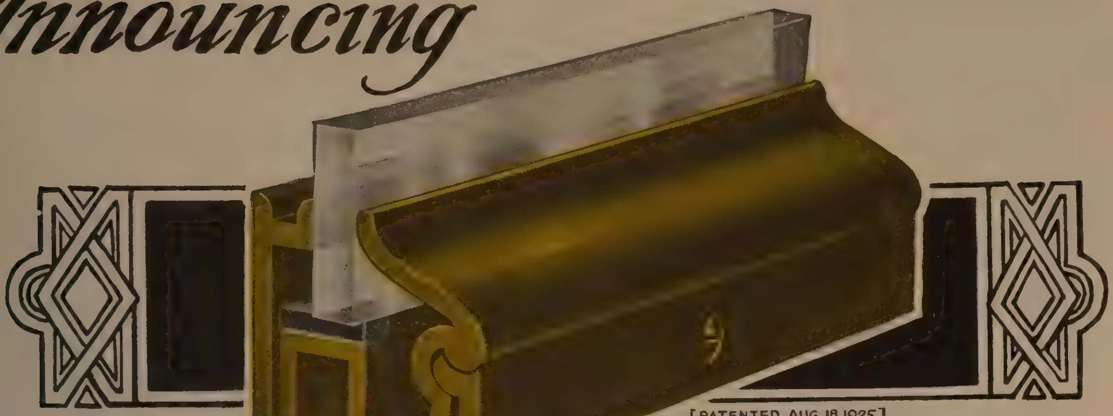

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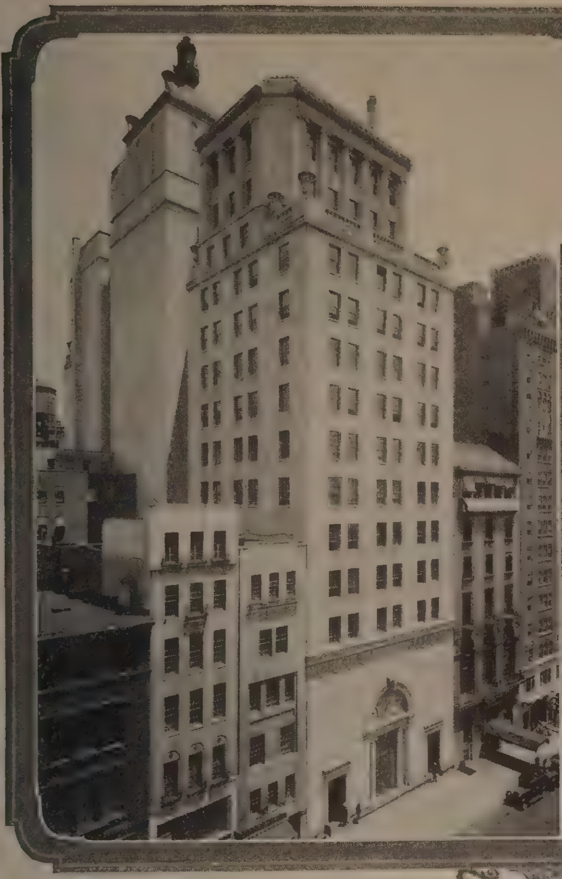
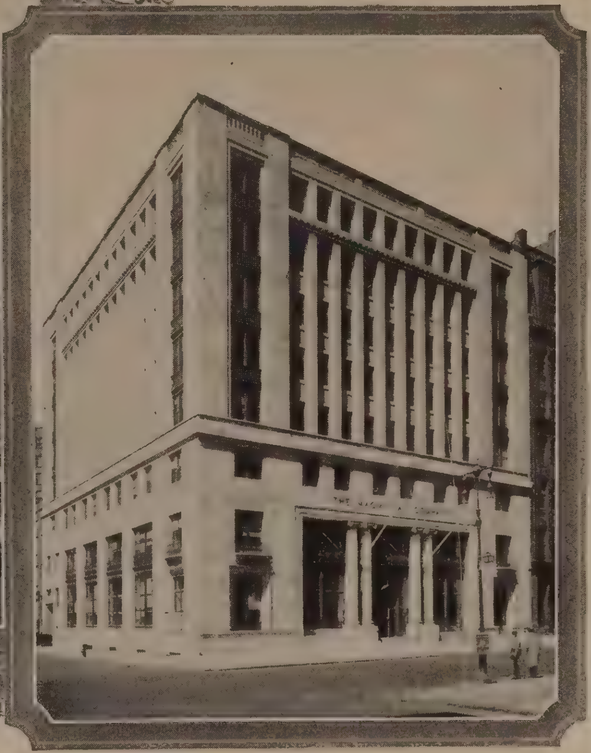


Steinway Building, New York City. Warren & Wetmore, Architects. Winner of Gold Medal



The MacMillan Company Building New York City. Carrere & Hastings — Shreve & Lamb, Architects. Winner of Silver Medal

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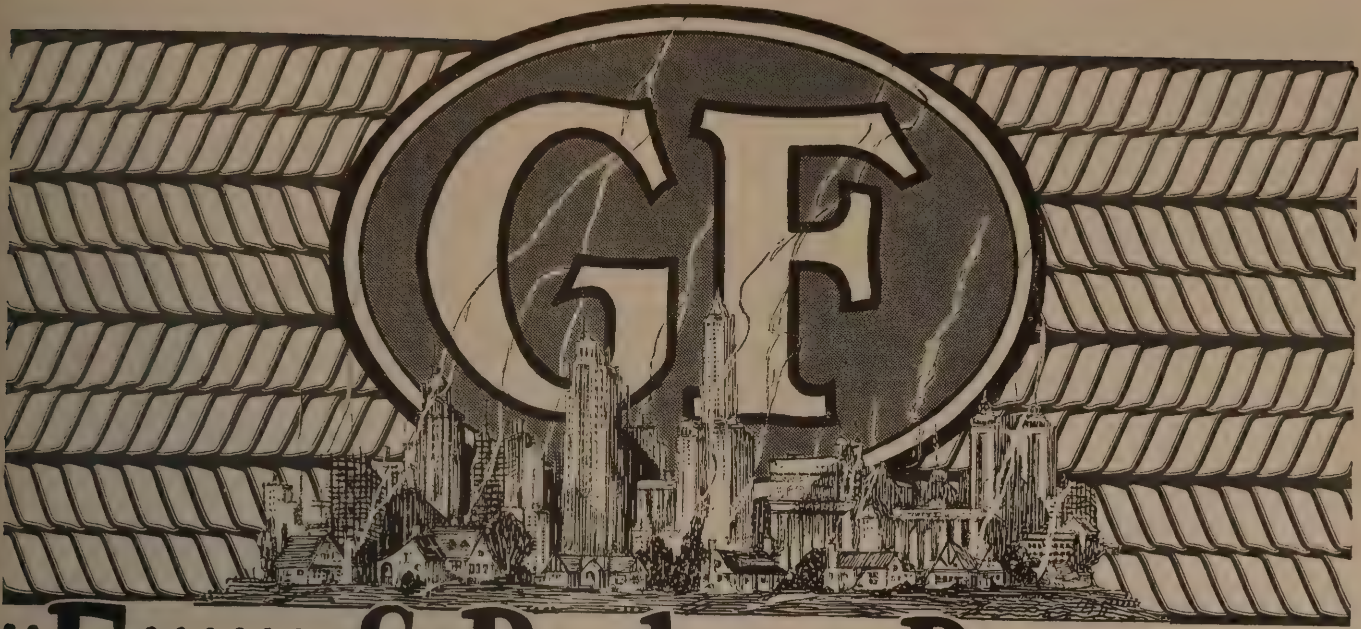

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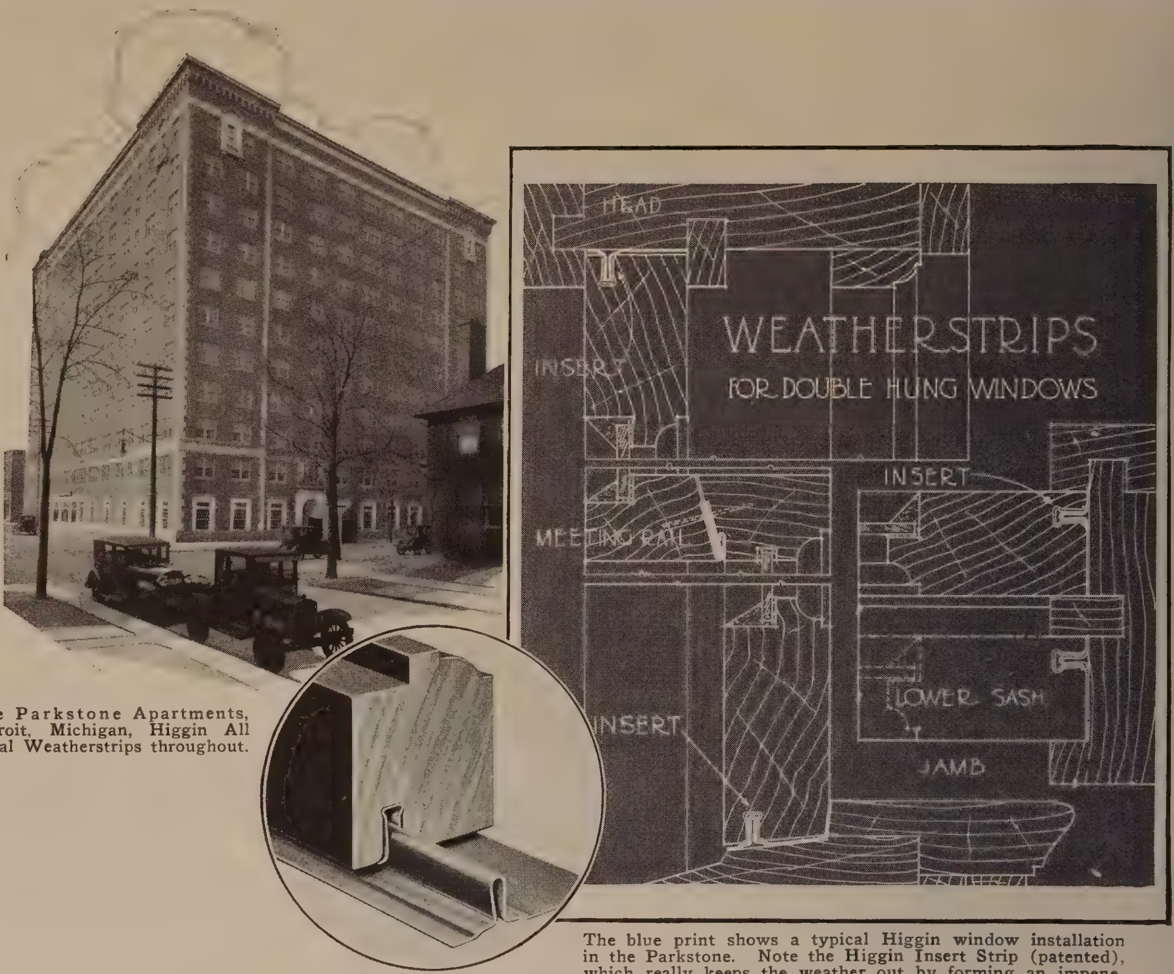

The Parkstone Apartments, Detroit, Michigan, Higgin All Metal Weatherstrips throughout.

The blue print shows a typical Higgin window installation in the Parkstone. Note the Higgin Insert Strip (patented), which really keeps the weather out by forming an impenetrable metal-to-metal contact.

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Look in your telephone or city directory for the address of your local Higgin Service Office, or write the home office direct. See our catalogue in Sweet's.

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ALL METAL
Screens *and* Weatherstrips

Write for these Details of Higgin equipment

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- Screens for projected or reversible sash opening in.
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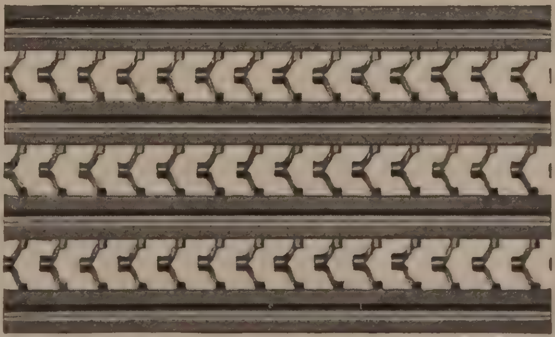

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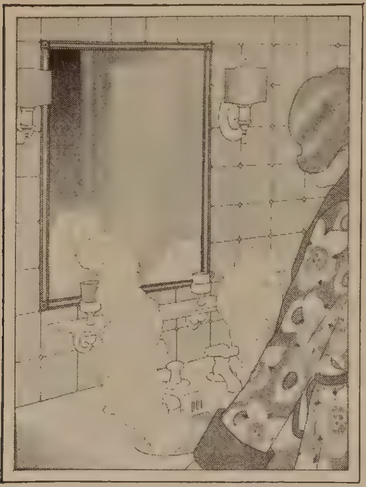

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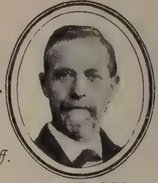

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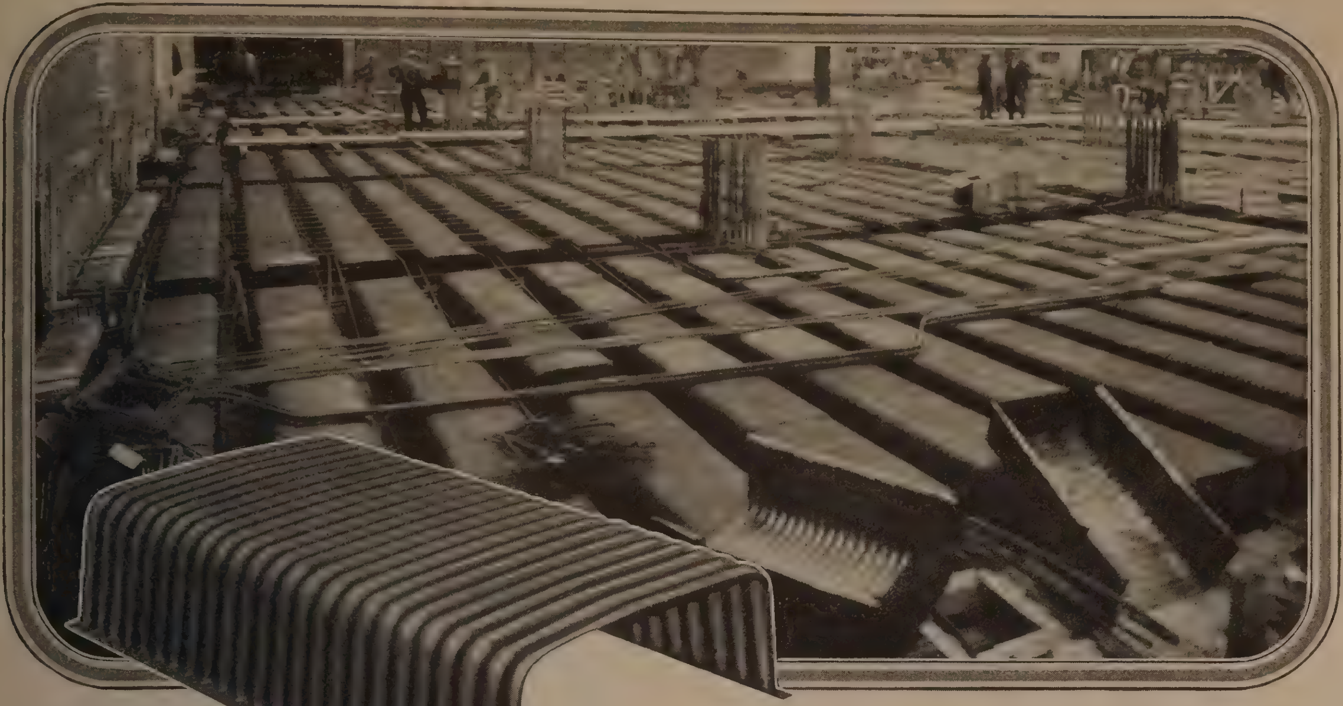
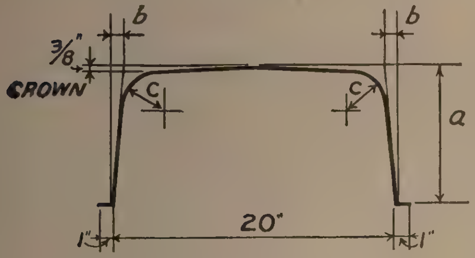


20 Gauge Milcor Steel Domes used in the Century Building, Milwaukee. Architects: Alfred S. Alschuler, Inc., Chicago. Contractors: Theo. Stark & Co., Milwaukee. Note: The strength of Milcor Domes is emphasized by the heavy load of reinforcing steel, planks, etc., shown in this picture.

To Architects Designing "Light Occupancy" Structures



Designed by Milcor Engineers for Safety and Saving in Concrete.

The tapered crown, perpendicular legs, and the sturdy corrugations — a combination of features found only in Milcor Steel Domes — are the result of years of experience. Milcor Engineers who specialize on this type of construction, are responsible for this design. The Domes are strong and rigid, to insure perfect joists. Less concrete is required and the maximum of safety is assured. Consult the Safe Load Tabular data in "The Milcor Manual".

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Compared with other Forms—Steel "Pans" or Steel "Tile"—Milcor Domes use 6% to 12% less concrete. Compared with solid slab construction, the Milcor Steel Dome method eliminates 50% to 60% of the concrete.

These important savings in concrete naturally reduce the dead weight of "light occupancy" structures to such extent that lighter columns, beams and footings may be used. Consult your Milcor Manual for valuable tabular data and other information concerning safe loads for long span, reinforced concrete floors for hotels, office buildings, schools, apartments, hospitals and other buildings in the "light occupancy" class.

Joist Scales Free: *This convenient calculator—the Milcor Joist Scale—was designed by a Milcor Engineer who is an authority on reinforced concrete construction. He had improvised scales of this sort on Blue Print Paper, pasted on cardboard, and had found such scales very practical, making quick exact calculations of the number of Joists, or the number of Steel Domes, required for safe construction. It is very useful in making up quantity surveys, estimates and proposals where this type of construction is involved. About 1500 Milcor Joist Scales are now in use. Write for yours today—no cost or obligation on your part.*

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Sacramento, California

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FOR THE SERVICE OF ARCHITECTS, ENGINEERS, DECORATORS, AND CONTRACTORS

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ACOUSTICS

The Celotex Co., Chicago.

Acousti-Celotex. 16 pp., 8½ x 11 in. Illustrated brochure on a valuable material for facing walls and ceilings.
Specifications and Details for application and decoration of Acousti-Celotex, 11 pp., 8½ x 11 in.

John-Manville, Inc., Madison Ave. & 41st St., New York, N. Y.

Architectural Acoustics. Booklet. 6 x 9 in. 24 pp. Illustrated. Treatise on the correction of architectural acoustics in Churches, schools, hospitals, office buildings and other places.

ASH HOISTS—ELECTRIC AND HAND POWER

Gillis & Geoghegan, 544 West Broadway, New York, N. Y.

General Catalog. 8½ x 11 in. 20 pp. Fully illustrated. Contains specifications in two forms (with manufacturers' name and without). Detail ¼ in. scale for each telescopic model and special material-handling section.

The Man-Saving Load Lifter. 5⅞ x 8⅞ in. 8 pp. Illustrated. Describes G&G Telescopic and Non-Telescopic Hoists for handling material in factories.

BOILERS—See Heating Equipment

BRICK

Acme Brick Company, Ft. Worth, Texas.

Series No. 1
Architectural designs rendered in Acme Brick. Booklet 11 x 8½ in. Illustrated. A series of 48 photogravures showing architectural designs rendered in Acme brick. Illustrations show the various types of buildings erected in the Southwest in recent years. Sent free to architects applying on their office stationery.

American Face Brick Association, 1751 Peoples Life Bldg., Chicago, Ill.

The Story of Brick. Third Edition. Booklet. 7 x 9¼ in. 55 pp. Illustrated. Presents the merits of face brick from structural and artistic standpoints. Tables of comparative costs.
The Home of Beauty. Fourth Edition. Book. 8 x 10 in. 72 pp. Color plates. Presents fifty designs for small face brick houses submitted in national competition by architects. Text by Aymar Embury II, Architect. Price 50c.
"English Precedent for Modern Brickwork." A book of plates and measured drawings of Tudor and Gothic brickwork with a few recent variations of modern architects in the spirit of the old work. Price $2.00. 100 pp. Illustrated. 8½ x 11 in.
Architectural Details in Brickwork. Series 1, 2, 3. 8½ x 11 in. Very useful to the architect or draftsman. Sent free to architects applying on their office stationery. To others $1.50.

BUILDING FINANCE

S. W. Straus & Co., 565 Fifth Ave., New York, N. Y.

The Straus Plan of finance is an attractively prepared booklet of 30 pages 6 x 9 in. in size, which summarizes the plan under which S. W. Straus & Co. finance modern office building, apartment house, residential hotel and other types of construction. It is illustrated with sketches of buildings throughout the United States which secure bond issues purchased by S. W. Straus & Co.

BUILDING STONE—See Stone, Building

BUILDING, STANDARD STEEL

Truscon Steel Company, 250 W. Lafayette Blvd., Detroit, Mich.
Truscon Standard Building Catalog. 8½ x 11 in. 48 pp. Contains data and illustrations.

BUILDING, STEEL PRODUCTS FOR

Massillon Steel Joist Co., Canton, Ohio.

Massillon Bar Joists. Pamphlet. 8½ x 11 in. Illustrated. Information descriptive of Massillon Bar Joist Permanent Fireproof Floor and Roof Construction, with cuts of typical installations. See classification "Steel Joists" for other publications intended for the architect designing this construction.

Massillon Metal Lath. Pamphlet. 8½ x 11 in. Illustrated. Includes tabulations and illustrations covering recommendations for the use of various weights and kinds of metal lath and lath accessories.

Massillon Roof Trusses. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Shows typical installations with 12 sizes of Standardized Curved Chord Steel Roof Trusses for spans of from 40 to 60 feet, together with details, dimensions, and safe loading tables.

Massillon Bank Vault Reinforcing. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Gives details of typical installations for a line of standardized steel vault reinforcing frames.

Truscon Steel Company, 250 W. Lafayette Blvd., Detroit, Mich.

Truscon Data Book. Catalog. 3½ x 6 in. 128 pp. Illustrated. Contains complete information with illustrations on Truscon reinforcing steel, steel windows, metal lath, standard buildings, concrete inserts, steel joists, pressed steel stamping and chemical products.

CEMENT

Louisville Cement Co., 315 Guthrie St., Louisville, Ky

Brixment. Booklet. 7½ x 5 in. 16 pp. Illustrated. Brixment, what it is, what it does, how it does it and why.

CONCRETE COLORINGS

A. C. Horn Company, Long Island City, N. Y.

Keramic Catalog. Booklet. 8½ x 11 in. 26 pp. A magnificent brochure, illustrated in color, describing a valuable line of specialties for use with concrete floors—colorings, hardeners, waterproofing, etc.

CONDUIT

Johns-Manville, Inc., New York.

Orangeburg Fibre Conduit. Booklet. 8½ x 11 in. 8 pp. Details regarding a valuable form of conduit.
Orangeburg System of Under Floor Duct. Booklet. 8½ x 11 in. 32 pp.

National Metal Molding Co., 1113 Fulton Building, Pittsburgh, Pa.

Bulletin of all National Metal Molding Products. In correspondence folder. 9½ x 11½ in.

Sheraduct. Circular. 5 x 8 in. Illustrated.

Flaxsteel. Circular. 5 x 8 in. Illustrated.

CONSTRUCTION, FIREPROOF

Massillon Steel Joist Co., Canton, Ohio.

Massillon Bar Joists. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Contains general information, with illustrations, regarding obtaining Permanent Fireproof Floor and Roof Construction by using Massillon Bar Joists. See classification "Steel Joists" for other publications intended for architects designing this construction.

Massillon Metal Lath. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Contains cuts, illustrations and recommendation for the use of various weights and kinds of metal lath for fireproofing columns, beams and steel joists.

National Fire Proofing Co., 250 Federal St., Pittsburgh, Pa.

Standard Fire Proofing Bulletin 171. 8½ x 11 in. 32 pp. Illustrated. A treatise on fireproof floor construction.

Northwestern Expanded Metal Co., 1234 Old Colony Building, Chicago, Ill.
Northwestern Expanded Metal Products. Booklet. 8½ x 10¾ in. 16 pp. Fully illustrated, and describes different products of this company, such as Kno-burn metal lath, 20th Century Corrugated. Plaster-Sava and Longspan lath channels, etc.

DAMPPROOFING

Philip Carey Co., Lockland, Cincinnati, Ohio.
Architects' Specifications for Carey Built-Up Roofing. Booklet. 8 x 10¾ in. 24 pp. Illustrated. Complete data to aid in specifying the different types of built-up roofing to suit the kind of roof construction to be covered.

Carey Built-Up Roofing for Modern School Buildings. Booklet. 8 x 10¾ in. 32 pp. Illustrated. A study of school buildings of a number of different kinds and the roofing materials adapted for each.

A. C. Horn Company, Long Island City, N. Y.

Waterproofing. 9½ x 11½ in. Folder. Contains folders giving data on excellent waterproofing and dampproofing materials.

Sonneborn Sons, Inc., L., 116 Fifth Ave., New York.

Specification Sheet, 8½ x 11 in. Descriptions and specifications of compounds for dampproofing interior and exterior surfaces.

Toch Brothers, 110 East 42nd Street, New York City.

Specifications for Dampproofing, Waterproofing, Enameling and Technical Paint. Complete and authoritative directions for use of an important line of materials.

DOORS AND TRIM, METAL

The American Brass Company, Waterbury, Conn.
Illustrated pamphlet describing use and adaptability of Extruded Architectural Bronze Shapes for metal window frames, doors, grilles, counter screens, etc.

The Compound & Pyrono Door Company, St. Joseph, Mich.

Pyrono Handbook for Architects and Contractors. 8½ x 11 in. 16 pp. Contains full information regarding Pyrono Fireproof Veneered Doors and Trim, with complete details and specifications.

Pyrono details in sheet form for tracing.

Dahlstrom Metallic Door Company, 425 Buffalo St., Jamestown, N. Y.

Architectural Catalog. 10 x 14 in. 46 pp. 11 sections. Illustrated. Catalog showing the regular styles and types of hollow metal doors and interior trim. Various types of frames and other architectural shapes also illustrated.

Buildings as They Should Be. Booklet. 7½ x 10½ in. A lavishly illustrated publication giving data and views of buildings of different kinds equipped with Dahlstrom doors and trim.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 125*

DOORS AND TRIM, METAL—Continued

Richards-Wilcox Mfg. Co., Aurora, Ill.

Fire Doors and Hardware, Booklet. 8½ x 11 in. 64 pp. Illustrated. Describes entire line of tin-clad and corrugated fire doors, complete with automatic closers, track hangers and all the latest equipment—all approved and labeled by Underwriters' Laboratories.

DUMBWAITERS

Sedgwick Machine Works, 151 West 15th St., New York.

Catalog and Service Sheets. Standard specifications, plans and prices for various types, etc. 4¼ x 8¼ in. 60 pp. Illustrated.

ELECTRICAL EQUIPMENT

Frank Adam Electric Company, St. Louis, Mo.

Catalog No. 35—1925. Panelboards—Steel Cabinets. 7¾ x 10½ in. 64 pp. Illustrates and describes sectionally built panelboards, an important line of steel cabinets, and the fittings which go with them.

Frink, Inc., I. P., 24th St. and 10th Ave., New York City.

Catalog 415. 8½ x 11 in. 46 pp. Photographs and scaled cross-sections. Specialized bank lighting, screen and partition reflectors, double and single desk reflectors and Polaralite Signs.

The Edwin F. Guth Co., 2615 Washington Ave., St. Louis, Mo.

Brascolite Catalog No. 10. 10½ x 8 in. 28 pp. Illustrated. Catalog listing Brascolite fixtures in wide variety of plain and decorative types. Contains information of value in planning a lighting installation.

Bank and Office Building Catalog. 10½ x 8 in. 16 pp. Illustrated. Catalog listing a selected line of fixture equipment for application to all outlets in bank or office buildings or similar buildings.

Architectural Bulletins, Series of 5. 10½ x 8 in. 28-64-44-28-44 pp. Illustrated. A series of five bulletins, each treating upon the application of lighting to one particular class of service. Hospitals; Banks and Office Buildings; Schools, Colleges and Y. M. C. A. Buildings; Church and Fraternal Buildings; Commercial Service.

Special Hospital Catalog. 10½ x 8 in. 9 pp. Illustrated. Illustrates a special selection of fixture equipment for hospital use including types suitable for all outlets.

Hart & Hegeman Mfg. Co., The, 342 Capitol Ave., Hartford, Conn.

The Line of Least Resistance. Catalog R. 10½ x 7⅞ in. 152 pp. Illustrated. Complete display of switches, sockets, accessories and wiring devices with brief description.

A new H & H Switch. Leaflet. 3½ x 6 in. 4 pp. Illustrated. Illustrates a new H & H composition base push switch of De Luxe quality.

Tumbler Switches. Booklet. 3½ x 6 in. 6 pp. Illustrated. Shows complete line of H & H Tumbler Switches.

Architects' Handbook of H & H Wiring Devices. Booklet 8½ x 11 in. 16 pp. "Written by an Architect for Architects."

Holtzer-Cabot Electric Company, Armory Street, Boston 19, Mass.

Signalling Systems for Hospitals. Brochure. 8½ x 11 in. 42 pp. Illustrated. Contains complete data covering Nurse's Call, Doctor's Call, "In" and "Out" Fire Alarm, Watchman's Clock and Telephone Systems.

Holtzer-Cabot Electric Co., Boston and Chicago.

Bank signal and alarm systems. Brochure. 8½ x 11 in. 48 pp. Illustrated. An invaluable work on protective and other appliance for banks.

Kohler Co., Kohler, Wis.

Principle and Proof. Booklet. 48 pp. Illustrated. Describes a standard voltage automatic electric power and light plant for isolated homes, for emergency auxiliary or permanent lighting in stores, theaters, churches and schools.

Pick & Company, Albert, 208 West Randolph St., Chicago, Ill.

School Cafeterias. Booklet. 9 x 6 in. Illustrated. The design and equipment of school cafeterias with photographs of installation and plans for standardized outfits.

Kitchen Equipment. Booklet. 9 x 6 in. Illustrated. Photographs and descriptions of Hotel, Club and Hospital kitchens with treatise on plans and equipment of efficient kitchens.

Electric Kitchen Equipment. Booklet. 8½ x 11½ in. Illustrated. Photographs and descriptions of PIX "Master-Made" ranges, ovens, etc., for Hotels and Restaurants.

Simplex Wire & Cable Co., 201 Devonshire St., Boston, Mass.

Simplex Manual Catalog and Reference Book, 6¼ x 4¼ in. 92 pp. Contains in addition to information regarding Simplex products, tables and data for the ready reference of architects, electrical engineers and contractors.

Specification No. 2053. For Simcore Wires and Cables. Various sizes of Conductor-Rubber Insulation.

Western Electric Co., 195 Broadway, New York, N. Y.

Western Electric Inter-Phones for Apartment Houses. Booklet. 5¼ x 6¾ in. 16 pp. Illustrated. Illustrates and describes use if Inter-Phones in Apartment Houses.

Installing and Maintaining Western Electric Inter-Phones. In addition to giving general information on layout of system, details are supplied on individual Inter-Phone Systems, listing battery and wiring requirements.

ELEVATORS

Otis Elevator Company, 260 Eleventh Ave., New York, N. Y.

Otis Push Button Controlled Elevators. Descriptive leaflets. 8½ x 11 in. Illustrated. Full details of machines, motors and controllers for these types.

Otis Geared and Gearless Traction Elevators of All Types. Descriptive leaflets. 8½ x 11 in. Illustrated. Full details of machines, motors and controllers for these types.

ELEVATORS—Continued

Escalators. Booklet. 8½ x 11 in. 22 pp. Illustrated. Describes use of escalators in subways, department stores, theaters and industrial buildings. Also includes elevators and dock elevators.

Richards-Wilcox Mfg. Co., Aurora, Ill.

Elevators. Booklet. 8½ x 11 in. 24 pp. Illustrated. Describes complete line of "Ideal" elevator door hardware and checking devices, also automatic safety devices.

Sedgwick Machine Works, 151 West 15th St., New York, N. Y.

Catalog and descriptive pamphlets, 4¼ x 8¼ in. 70 pp. Illustrated. Descriptive pamphlets on hand power freight elevators, sidewalk elevators, automobile elevators, etc.

ENAMELING

Toch Brothers, 110 East 42nd Street, New York City.

Specifications for Dampproofing, Waterproofing, Enameling and Technical Painting. Complete and authoritative directions for use of an important line of materials.

FIRE DOORS—See Doors, Windows and Trim, Metal

FIREPROOFING—See also Construction, Fireproof

The General Fireproofing Company, Youngstown, Ohio.

Fireproofing Handbook, 8½ x 11 in. 64 pp. Illustrated. Gives methods of construction, specifications, data on Herringbone metal lath, steel tile, Trussit solid partitions, steel lumber, self-centering formless concrete construction.

FLOOR HARDENERS (CHEMICAL)

Sonneborn Sons, Inc., L., 116 Fifth Ave., New York, N. Y.

Lapidolith, the liquid chemical hardener. Complete sets of specifications for every building type in which concrete floors are used, with descriptions and results of tests.

FLOORING

Armstrong Cork & Insulation Co., 132 24th St., Pittsburgh, Pa.

Linotile Floors for Public and Semi-Public Buildings, 7½ x 10⅜ in. 36 pp.

Linotile Floors for Residences. 7½ x 10⅜ in. 32 pp.

Armstrong's Cork Tile. Revised Edition. Booklet. 24 pp. 5 x 7 in. Illustrated in color. Contains complete specifications.

Armstrong Cork & Insulation Co., Pittsburgh, Pa.

Armstrong's Cork Tile Floors. Booklet, 7¾ x 10½ in. 30 pp. An illustrated work on cork flooring.

Armstrong Cork Co. (Linoleum Division), Lancaster, Pa.

Armstrong's Linoleum Floors. Catalog. 8½ x 11 in. 36 pp. Color plates. A technical treatise on linoleum, including table of gauges and weights and specifications for installing linoleum floors.

Decorative Linoleum Floors. Portfolio of Color Plates. 11¼ x 15 in. 16 pp. Color plates.

Armstrong's Linoleum Pattern Book, 1925. Catalog. 3½ x 6 in. 200 pp. Color Plates. Reproduction in color of all patterns of linoleum and cork carpet in the Armstrong line.

Quality Sample Books. Two books, 3½ x 5¾ in. Showing all gauges and thicknesses in the Armstrong line of linoleums.

Detailed Directions for Laying and Caring for Linoleum. Handbook, 5 x 7 in. 48 pp. Instructions for linoleum layers and others interested in learning most satisfactory methods of laying and taking care of linoleum.

Business Floors. Booklet. 6 x 9 in. 48 pp. Illustrated in color. Explains use of linoleum for offices, stores, etc., with reproductions in color of suitable patterns, also specifications and instructions for laying.

Barber Asphalt Co., Philadelphia.

Specifications for Applying Genasco Asphalt Mastic. Booklet. 8 x 10½ in. Directions for using Asphalt Mastic for flooring.

Bonded Floors Company, Inc., 1421 Chestnut St., Philadelphia, Pa.

The "Distinctive Floors" Series. Three pamphlets 7¾ x 10¾ in. Illustrated in full color, each describing and picturing a resilient floor material, as follows:

Battleship Linoleum. Explains the advantages and proper use of this durable, economical material.

Treadlite Tile. Shows a variety of colors and patterns of this adaptable cork composition flooring.

Natural Cork Tile. Description and color plates of this super-quiet, resilient floor.

Linoleum Specifications. Folder, 8¼ x 11 in. 8 pp. Standard specifications for installation of battleship linoleum, with detailed description and explanation. Also includes copy of Federal Government Specification No. 209.

Practical Working Specifications for installing battleship linoleum treadlite tile, and cork tile.

Carter Bloxonend Flooring Co., Keith & Perry Bldg., Kansas City, Mo.

Bloxonend Flooring. Booklet 3¼ x 6¼ in. 20 pp. Illustrated. Describes uses and adaptability of Bloxonend Flooring to concrete, wood or steel construction, and advantages over loose wood blocks.

File Folder, 9⅜ x 8⅝ in. For use in connection with A. I. A. system of filing. Contains detailed information on Bloxonend Flooring in condensed, loose-leaf form for specification writer and drafting room. Literature embodied in folder includes standard Specification Sheet covering the use of Bloxonend in general industrial service and Supplementary Specification Sheet No. 1, which gives detailed description and explanation of an approved method for installing Bloxonend in gymnasiums, armories, drill rooms and similar locations where maximum resiliency is required.

Residence of Edward Warner, Esq., Nashville, Tennessee. Donald W. Southgate, Nashville, architect. H. S. Vaughn, Nashville, builder. Celotex Insulating Lumber used for sound-deadening and insulation.

INSULATED

at practically no extra cost

Why Donald W. Southgate specified Celotex Insulating Lumber for this beautiful Nashville home

Every architect knows the advantages of insulating the houses he designs.

But ordinary insulation is quite an added expense. Although one of the most important features of a house, insulation is usually one of the first to be cut out when you have to figure costs closely. Not so when you specify Celotex Insulating Lumber.

As sheathing

Used as sheathing, in place of wood lumber and building paper, Celotex adds effective insulation at actually less than the cost of ordinary construction.

Celotex has *three* times the heat stopping power of wood lumber, *eight* times that of plaster board, *twelve* times that of brick and *twenty-five* times that of concrete. Its thermal conductivity is .33 B. t. u. per hour per square foot per degree Fahrenheit per inch thickness (Armour Institute).

A Celotex sheathed house is much stronger than one of ordinary construction. Tests show that the resistance of Celotex to lateral distortion is several times that of wood sheathing.

Under plaster

On inside walls, Celotex gives insulation and deadens sound when used in place of lath. Plaster bonds directly with the surface of Celotex. It makes a stronger wall; less apt to crack; and free from lath marks. This construction costs a little more than a wood lath and plaster wall—and is worth it.

The only insulation that is not an extra

No other effective insulating material possesses this structural strength that makes it part of the building itself instead of an extra material and expense.

We will gladly mail our A. I. A. portfolio of detail sheets showing numerous applications free to architects. Just mail the coupon below for your copy.

LOOK AHEAD!

Architects are warning their clients against building uninsulated houses today.

Five years from now such houses will be out-of-date. Nobody will want to live in them. Nobody will want to buy or rent them. Nobody will think of building them.

THE CELOTEX COMPANY
CHICAGO, ILL.
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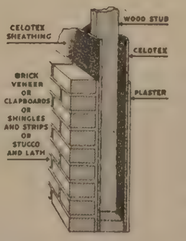
(See telephone books for addresses)


CELOTEX SHEATHING
BRICK VENEER OR CLAPBOARDS OR SHINGLES AND STRIPS OR STUCCO AND LATH
WOOD STUD
CELOTEX
PLASTER

How Celotex is used

Celotex is used in outside walls as sheathing, replacing wood lumber and eliminating the use of building paper. On inside walls plaster is applied directly to its surface. This eliminates the use of lath. Results: more comfort, greater strength and security, longer life and less upkeep expense.

CELOTEX
INSULATING LUMBER

THE CELOTEX COMPANY, Dept. T-125
645 N. Michigan Ave., Chicago, Ill.
Please send A. I. A. portfolios on Celotex
Arch. Forum-5-26

Name ....
Street ....
City ________ State ________

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 126*

FLOORING—Continued

Duraflex Company, Inc., 11 Pleasant Street, Baltimore, Md.

Why They Used It in One of Boston's Finest Buildings.

Typical of Character of One of the 13 Original States.
Illustrated 4-page brochures, 5¼ x 8¼ in., giving data on "Duraflex" floors.

Permanent, Easy Tread Flooring. Folder. 4 pp. 8½ x 11 in. on floor covering material.

Specifications for Sub-Floors for "Duraflex." Folder. 11 pp. 8½ x 11 in. on base for laying "Duraflex."

Test of Floorings. Folder. 2 pp. Report of Flooring Committee of American Hospital Association.

Muller Co., Franklyn R., Waukegan, Ill.

Asbestone Composition Flooring. Circular. 8½ x 11 in. Descriptions and Specifications.

Norton Company, Worcester, Mass.

Filing Folder. 8½ x 11¾ in. 27 pp. Illustrated with drawings. Specification data for architects.

Ritter Lumber Co., W. M., Columbus, Ohio.

Ritter Oak Flooring, brochure 5 x 7 in. 31 pp. Illustrated. Excellent data on floors of different kinds and of various woods.

Beauty Begins in the Forest.
Large illustrated folder on modern flooring.

U. S. Gypsum Co., Chicago.

Pyrobar Floor Tile. Folder. 8½ x 11 in. Illustrated. Data on building floors of hollow tile, and tables on floor loading.

U. S. Rubber Co., 1790 Broadway, New York.

Period Adaptations for Modern Floors. Brochure. 8 x 11 in. 60 pp. Richly illustrated. A valuable work on the use of rubber tile for flooring in interiors of different historic styles.

FOLDING PARTITIONS

Irving Hamlin, Evanston, Ill.

The Evanston Sound-Proof Door. Brochure. 8½ x 11 in. 8 pp. Full data on Hamlinized Folding Partitions and Evanston Sound-Proof Doors.

Wilson Corporation, J. G., 11 East 36th Street, New York, N. Y.

Sectionfold and Rolling Partitions and Hygienic School Wardrobes. Catalog No. 37. Booklet 8½ x 11 in. 40 pp. Illustrated. Describes the uses of rolling and sectional partitions, particularly in schools and churches. Also the installation of Wilson school wardrobes.

FURNACES—See Heating Equipment.

FURNITURE

American Seating Co., 14 E. Jackson Blvd., Chicago, Ill.

Ars Ecclesiastica Booklet. 6 x 9 in. 48 pp. Illustrations of church fitments in carved wood.

Theater Chairs. Booklet. 6 x 9 in. 48 pp. Illustrations of theater chairs.

Kensington Mfg. Company, Showrooms, 41 west 45th St., New York.

Illustrated booklet indicative of the scope, character and decorative quality of Kensington Furniture, with plan of co-operation with architects, sent on request.

Photographs and full description of hand-made furniture in all the period styles, furnished in response to a specific inquiry.

White Door Bed Company, The, 130 North Wells Street, Chicago, Ill.

Booklet. 8½ x 11 in. 20 pp. Illustrated. Describes and illustrates the use of "White" Door Bed and other space-saving devices.

GARDEN ACCESSORIES

Davey Tree Expert Company, The, 907 Elm St., Kent, Ohio.

When Your Trees Need The Tree Surgeon. Booklet. 16 pp. 8 x 9¼ in. Illustrated. Lists and explains a number of serious tree troubles of common occurrence; contrasts the scientific methods used by properly trained and conscientious men to remedy these troubles with the work of unscrupulous or untrained men.

GLASS CONSTRUCTION

Mississippi Wire Glass, 220 Fifth Avenue, New York.

Mississippi Wire Glass. Catalog. 3⅞ x 8½ in. 32 pp. Illustrated. Covers the complete line.

GRANITE—See Stone, Building

GRILLES

Wickwire Spencer Steel Co., Inc., 41 East 42nd St., New York.

Clinton Grilles. Booklet. 9 x 11 in. 12 pp. A brochure on metal grilles, particularly for use over heating radiators.

HARDWARE

Cutler Mail Chute Company, Rochester, N. Y.

Cutler Mail Chute Model F. Booklet. 4 x 9¼ in. 8 pp. Illustrated.

McKinney Mfg. Co., Pittsburgh, Pa.

McKinney Complete Garage Hardware Sets. Catalog. 6¾ x 10 in. 20 pp. Illustrated. Describes full line of complete garage hardware sets for all kinds of entrances, with views of typical entrances and sketches.

McKinney Hinges and Butts. General Catalog. 6¾ x 10 in. Illustrates and describes complete line of McKinney wrought builders' hardware products, including hinges, butts, door hangers and track, latches, garage hardware and specialties.

Richards-Wilcox Mfg. Co., Aurora, Ill.

Distinctive Garage Door Hardware. Booklet. 8½ x 11 in. 65 pp. Illustrated. Complete information accompanied by data and illustrations on different kinds of garage door hardware.

Sargent & Company, New Haven, Conn.

Details to Which Standard Hardware Can Be Applied. Booklet. 6 pp. 9 x 12 in. Illustrated. Treats with diagrams, portions of doors and windows to which hardware can be applied.

Vonnegut Hardware Co., Indianapolis, Ind.

Von Duprin Self-Releasing Fire Exit Devices. Catalog 12F. 8 x 11 in. 41 pp. Illustrated.

Saving Lives. Booklet. 3¼ x 6 in. 16 pp. Illustrated. A brief outline why Self-Releasing Fire Exit Devices should be used.

HEATING EQUIPMENT

American Radiator Company, The, 104 West 42nd St., N. Y. C.

Ideal Type "A" Heat Machine. Catalog 7¾ x 10½ in. 32 pp. Illustrated in 4 colors. A brochure of high-efficiency heating apparatus for residences and commercial buildings.

Ideal Water Tube Boilers. Catalog 7¾ x 10⅝. 32 pp. Illustrated in 4 colors. Data on a complete line of Heating Boilers of the Water Tube type.

Ideal Smokeless Boilers. Catalog 7¾ x 10½ in. 32 pp. Illustrated in 4 colors. Fully explains a boiler free from the objection of causing smoke.

Ideal Boilers for Oil Burning. Catalog 5½ x 8½ in. 36 pp. Illustrated in 4 colors. Describing a line of Heating Boilers especially adapted to use with Oil Burners.

Corto—The Radiator Classic. Brochure 5½ x 8½ in. 16 pp. Illustrated. A brochure on a space-saving radiator of beauty and high efficiency.

Ideal Arcola Radiator Warmth. Brochure 6¼ x 9¼. Illustrated. Describes a central all-on-one-floor heating plant with radiators for small residences, stores, and offices.

James B. Clow & Sons, 534 S. Franklin St., Chicago, Ill.

Gasteam. Catalog. 6 x 9 in. 16 pp. Illustrated. New radiator using gas for fuel.

C. A. Dunham Company, 230 East Ohio Street, Chicago, Ill.

Dunham Radiator Trap. Bulletin 101. 8 x 11 in. 12 pp. Illustrated. Explains working of this detail of heating apparatus.

Dunham Packless Radiator Valves. Bulletin 104. 8 x 11 in. 8 pp. Illustrated. A valuable brochure on valves.

Dunham Return Heating System. Bulletin 109. 8 x 11 in. Illustrated. Covers the use of heating apparatus of this kind.

Dunham Vacuum Heating System. Bulletin 110. 8 x 11 in. 12 pp. Illustrated.

Excelso Specialty Works, 119 Clinton St., Buffalo, N. Y.

Excelso Water Heater. Booklet. 12 pp. 3 x 6 in. Illustrated. Describing the new Excelso method of generating domestic hot water in connection with heating boilers. (Firepot Coil eliminated.)

The Fulton Company, Knoxville, Tenn.

Sylphon, Temperature Regulators. Bulletin T-103. 8½ x 11 in. 16 pp. Complete data on Sylphon temperature regulators for air and liquids. Catalog 100, complete line Sylphon Heating Specialties.

Damper Regulators. Air and Vent Valves. Catalog No. 100. 3¾ x 6¾ in. Sylphon Damper Regulators for steam, hot water and vapor systems. Sylphon Air and Vent Valves.

Illinois Engineering Co., Racine Ave., at 21st St., Chicago, Ill.

Vapor Heat Bulletin 21. 8½ x 11 in. 32 pp. Illustrated. Contains new and original data on Vapor Heating. Rules for computing radiation, pipe sizes, radiator tappings. Steam table showing temperature of steam and vapor at various pressures, also description of Illinois Vapor Specialties.

International Heater Company, Utica, N. Y.

New International Economy Smokeless Boiler. Catalog, Form 1751-F. Copy will be sent on request.

Johnson Service Company, 149 Michigan St., Milwaukee, Wis.

Regulation of Temperature and Humidity. Booklet. 11¼ x 8½ in. 64 pp. Illustrated. Describes Johnson system of pneumatic automatic regulation of temperature and humidity, and illustrates thermostats, valves, air compressors, dampers and other parts.

Johnson Electric Thermostats, Valves and Controllers. Booklet. 6⅛ x 3½ in. 24 pp. Illustrated. Excellent plates showing electric thermostats and controllers.

Kelsey Heating Company, James St., Syracuse, N. Y.

Booklet No. 5, 4 x 9 in. 32 pp. Illustrated. A dealers' booklet showing the Kelsey Warm Air Generator Method of warming and distributing air. Gives dimensions, heating capacities, weights, kind of coal recommended and shows the mechanical and gravity systems of heating homes, churches and schools.

Monroe Pipeless Booklet, 4½ x 8 in. 20 pp. Illustrated.

Monroe Tubular Heater. Booklet. 4½ x 8 in. 20 pp. Illustrated. General Booklet giving capacities, dimensions, weights, etc.

Syracuse Pipeless Booklet. 4½ x 8 in. 12 pp. Illustrated. General Booklet giving sizes and capacities.

Kewanee Boiler Co., Kewanee, Ill.

Kewanee on the Job. Catalog. 8½ x 11 in. 80 pp. Illustrated. Showing installations of Kewanee boilers, water heaters, radiators, etc.

Catalog No. 78, 6 x 9 in. Illustrated. Describes Kewanee Firebox Boilers with specifications and setting plans.

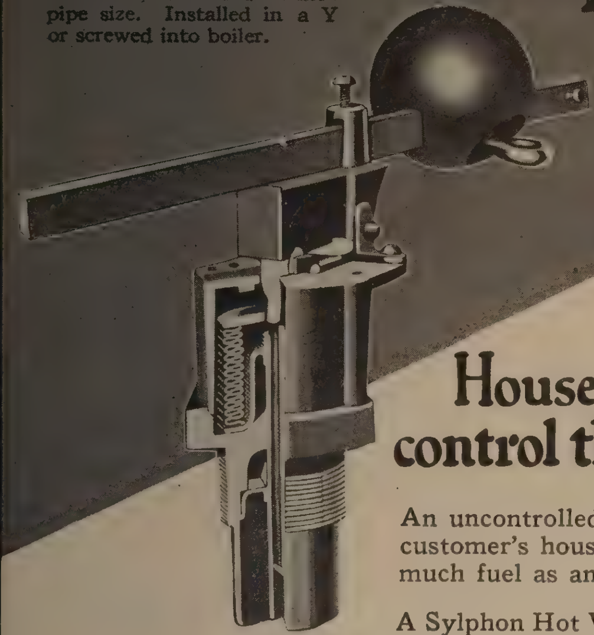
Catalog No. 79. 6 x 9 in. Illustrated. Describes Kewanee power boilers and smokeless tubular boilers with specifications.

Mueller Co., Decatur, Ill.

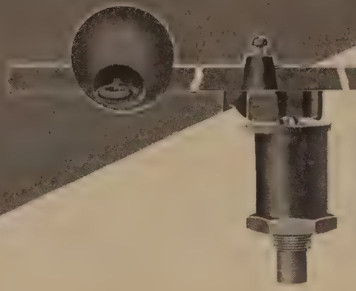
Catalog G, 8 x 11 in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in-measurements for built-in bath equipment.

Sylphon
TRADE MARK

Hot Water
Damper Regulators



Cut open view of No. 45-A Sylphon Hot Water Damper Regulator. Controls from 120 degrees to 220 degrees F. Length of bulb 2 inches; threaded 2-inch pipe size. Installed in a Y or screwed into boiler.



No. 46 Sylphon Hot Water Damper Regulator. Controls from 130° to 200° F. Length of bulb 1"; threaded 1" pipe size. May be screwed into boiler, laundry heater or garage heater.

House heating water boilers need control the same as steam boilers

An uncontrolled hot water heating system that overheats your customer's house causes just as much discomfort and wastes as much fuel as an uncontrolled steam system would.

A Sylphon Hot Water Damper Regulator will *automatically* open and close the drafts in quick and direct response to changes in water temperature. It will assist in keeping the house temperature constant at the desired point.

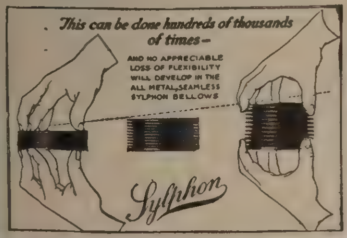
Use Sylphon Hot Water Damper Regulators on the hot water heating systems you specify. They assure life-long control *without servicing costs.*

The secret of their accurate, lifelong control

All Sylphon Damper Regulators contain the well known Sylphon Bellows as their diaphragm—the most *sensitive, flexible* and *durable* expansion unit known to engineering science.

Ask for Bulletin FDR-5

This diagrammatic cut shows the flexibility and large extent of expansion and contraction of the Sylphon bellows, originated, patented and manufactured solely by The Fulton Company. Insist on the genuine. Refuse imitations.


This can be done hundreds of thousands of times—
AND NO APPRECIABLE LOSS OF FLEXIBILITY WILL DEVELOP IN THE ALL METAL, SEAMLESS SYLPHON BELLOWS
Sylphon

THE FULTON COMPANY KNOXVILLE, TENN.

ORIGINATORS AND PATENTEES OF THE SYLPHON BELLOWS

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Canadian Representatives:
Darling Bros., Ltd.,
120 Prince Street, Montreal, Canada

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 128*

HEATING EQUIPMENT—Continued

Nash Engineering Company, South Norwalk, Conn.
No. 37. Devoted to Jennings Hytor Return Line Vacuum Heating Pumps, electrically driven, and supplied in standard sizes up to 300,000 square feet equivalent direct radiation.
No. 16. Dealing with Jennings Hytor Air Line Heating Pumps.
No. 17. Describing Jennings Hytor Condensation Pumps, sizes up to 70,000 square feet equivalent direct radiation.
No. 25. Illustrating Jennings Return Line Vacuum Heating Pumps. Size M, for equivalent direct radiation up to 5,000 square feet.

National Radiator Company, Johnstown, Pa.
Aero Radiators; Beauty and Worth. Catalog 34. Booklet 6 x 9 in., 20 pp., describing and illustrating radiators and accessories.

Peerless Unit Ventilation Company, Inc., Long Island City, N. Y.
Peerless Industrial Heating Unit. Folder 6 x 9 in. Deals specifically with heating industrial structures.
Peer Vent Heating and Ventilating Unit. Brochure, 6 x 6½ in. Illustrated. Valuable data on apparatus for ventilating and heating buildings of different types.

Trane Co., The, La Crosse, Wis.
Bulletin 14. 16 pp. 8½ x 10⅝ in. Cover the complete line of Trane Heating Specialties, including Trane Bellows Traps, and Trane Bellows Packless Valves.
Bulletin 20. 24 pp. 8½ x 10⅝ in. Explains in detail the operation and construction of Trane Condensation. Vacuum, Booster, Circulating, and similar pumps.

Utica Heater Company, Utica, N. Y.
Imperial Round and Square Boilers and Supplies. Catalog. 3½ x 6½ in. Gives complete data on small heaters.
Special Folders. 8½ x 11 in. "Warmth and Comfort," describing the scientifically correct NEW IDEA pipeless furnaces. "SUPERIOR Warm Air Pipe Furnaces," a standard line of heating equipment for over forty years. "SUPER-SMOKELESS Pipe and Pipeless Furnaces," a new and remarkably efficient warm air heater, burning cheap soft coal without smoke—utilizing the principle of the Bunsen Burner.
Utica Imperial SUPER-SMOKELESS Boiler. Catalog. 8½ x 11 in. Consists of the following seven bulletins, either loose or bound together: (1) School Heating Bulletin. (2) Public Building Bulletin. (3) Theater Heating Bulletin. (4) Churches and Religious Institutions. (5) Residences, Apartments and Hotels. (6) Offices, Industrial Buildings and Garages. (7) Technical Bulletin describing patented Bunsen Burner design and construction of the SUPER-SMOKELESS BOILER, which burns the cheapest grades of soft coal smokelessly and operates equally well with hard coal, coke or fuel oil.

HEAT REGULATORS—See Heating Equipment

HOISTS—See Ash Hoists

HOLLOW TILE—See Tile, Hollow

HOSPITAL EQUIPMENT

The International Nickel Company, 67 Wall St., New York, N. Y.
Hospital Applications of Monel Metal. Booklet. 8½ x 11½ in. 16 pp. Illustrated. Gives types of equipment in which Monel Metal is used, reasons for its adoption, with sources of such equipment.

The Kny-Scheerer Corporation of America, 119 Seventh Ave., New York.
Hospital Equipment, 16th Edition. 7¼ x 10½ in. 232 pp. Illustrated. Complete description of Hospital and Surgical Furniture, Hospital Appliances including Operating Tables, Cabinets, Sterilizers for Water, Dressing and Instruments, also Hydrotherapeutic Apparatus.
Surgical Sundries. Second Edition. Booklet. 7⅜ x 10½ in. 48 pp. Illustrated. A complete line of glassware, enamelware, rubber goods, restraint apparatus, instrument sterilizers, sputum cups, wheel chairs and sick room comforts.
Electro Medical. 25th Edition. Booklet. 7¼ x 10½ in. 160 pp. Illustrated. A complete line of Albee Bone Sets. Apparatus for AC and DC Cystocopes, Heat Magnets, Vibrators, Compressors, Electric Light Baths, High Frequency Apparatus and X-Ray Apparatus and Accessories.

INCINERATORS

Goder Incinerator Corporation, 323 North Michigan Ave., Chicago, Illinois.
"Goder Incinerators" Booklet. 8½ x 11 in. 16 pp. Illustrated. Describes the Goder Principle of Waste Disposal, illustrates the various designs and models, shows photos of actual installations.
"Goder Chimney Fed Incinerators." Booklet 8 pp. 8½ x 11 in. Illustrated. Describes chimney fed types of incinerator. Shows various designs and photos of installations. Gives specifications, also showing construction plans and details.
"The Garbage Hog." Folder 8½ x 11 in. 4 pp. Describes their portable Incinerator, with diagrams.

The Kerner Incinerator Company, 1029 Chestnut St., Milwaukee, Wis.
The Kernerator. Booklet. 5½ x 9¼ in. 40 pp. Illustrated. Describes principle and design of the Kernerator, guarantee and service, also gives illustrations of buildings where it has been installed, and testimonials.
Sanitary Elimination of Household Waste. Booklet. 4 x 9 in. 16 pp. Illustrated. Shows process, installations and advantages of the Kernerator.
Sanitary Disposal of Waste in Hospitals. Booklet. 4 x 9 in. 12 pp. Illustrated. Shows how this necessary part of hospital service can be taken care of by the Kernerator.

INSULATION

Armstrong Cork & Insulation Co., Pittsburgh, Pa.
Corkboard Insulation. Brochure. 6¼ x 9¼ in. Illustrated. Fully discusses properties of corkboard and its uses in insulation of cold storage rooms, refrigerators, residences, apartment houses.
The Insulation of Roofs with Armstrong's Corkboard. Booklet. Illustrated. 7½ x 10½ in. 32 pp. Discusses means of insulating roofs of manufacturing or commercial structures.
Insulation of Roofs to Prevent Condensation. Illustrated booklet. 7½ x 10½ in. 36 pp. Gives full data on valuable line of roof insulation.
Filing Folder for Pipe Covering Data. Made in accordance with A. I. A. rules.
Insulation of Dwellings with Armstrong's Corkboard, 7 x 10⅝ in. 40 pages. Illustrated.

Johns-Manville, Inc., New York.
Johns-Manville Service to Industry. Bound Volume. 260 pp. 8 x 11 in. Deals with Asbestos Roofings, Heat and Electrical Insulations. Waterproofing, and Industrial Flooring.
A Representation Installation of the Johns-Manville Underground System of Insulation. Booklet. 20 pp., 8½ x 11 in.

Philip Carey Co., The, Cincinnati, Ohio.
Carey Asbestos and Magnesia Products. Catalog. 6 x 9 in. 72 pp. Illustrated.

Celotex Company, The, 645 N. Michigan Ave., Chicago, Ill.
The Hidden Comfort of Costly Homes. Booklet 8½ x 11 in.
Celotex Specifications. Booklet 8½ x 11 in.

Johns-Manville, Inc., Madison Ave. and 41st St., New York, N. Y.
Johns-Manville Service to Power Users. Catalog. 8½ x 11 in. 150 pp. Illustrated. Contains valuable data on all forms of insulation, packages, steam traps, high temperature cements, brake locks and linings, also general technical data.

United States Mineral Wool Co., 280 Madison Ave, New York.
The Uses of Mineral Wool in Architecture. Booklet 4¼ x 6⅝ in. 24 pp. Illustrated. Describes properties of mineral wool as insulation against heat, frost, sound. Specifications and section drawing for use as a fireproofing. Rules for estimate and cost.

KITCHEN EQUIPMENT

Dougherty & Sons, Inc., W. F., 1009 Arch Street, Philadelphia, Pa.
"Superior" Kitchen and Cafeteria Equipment. Various catalogues, comprising a total of some 400 pages, profusely illustrated with actual plans, installations, appliances, etc., including a brief and interesting treatise on kitchen and cafeteria practice, of interest to architects in general.

Standard Gas Equipment Corporation, 18-20 East 41st Street, New York, N. Y.
VULCAN Gas Ranges and Appliances. Booklet. 5 x 8 in. 50 pp. Illustrated. Describes complete line, including VULCAN SMOOTH TOP Compact Cabinet Gas Ranges for kitchens in the home.
VULCAN Gas Equipment for Hotels, Hospitals, Restaurants, etc. Booklet, 5 x 8 in. 45 pp. Illustrated. Equipment for heavyduty cooking requirements, with information of value to architects in planning kitchens.

The International Nickel Company, 67 Wall St., New York, N. Y.
Hotels, Restaurants and Cafeteria Applications of Monel Metal. Booklet. 8½ x 11 in. 32 pp. Illustrated. Gives types of equipment in which Monel Metal is used, with service data and sources of equipment.

Mueller Co., Decatur, Ill.
Catalog G, 8 x 11 in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in-measurements for built-in bath equipment.

Pick & Company, Albert, 208 W. Randolph St., Chicago, Ill.
School Cafeteria. Portfolio. 17 x 11 in. 44 pp. Illustrated. An exhaustive study of the problems of school feeding, with copious illustrations and blue prints. Very valuable to the architect.
School Cafeterias. Booklet. 9 x 6 in. Illustrated. The design and equipment of school cafeterias with photographs of installation and plans for standardized outfits.
Kitchen Equipment. Booklet. 9 x 6 in. Illustrated. Photographs and descriptions of Hotel, Club and Hospital kitchens with treatise on plans and equipment of efficient kitchens.
Electric Kitchen Equipment. Booklet. 8½ x 11½ in. Illustrated. Photographs and descriptions of PIX "Master-Made" ranges, ovens, etc., for Hotels and Restaurants.
Hotel, Apartment Building, Club and Institution Installations. Portfolio. 17 x 11 in. 100 pp. Shows, mostly by plates, how the Albert Pick Company equips hotels completely from top to bottom.
Equipment for Cafeterias, Lunch Rooms, Restaurants, and Dining Rooms. Portfolio. 17 x 11 in. 86 pp. Illustrated. The last word in Cafeteria equipment to meet all requirements.

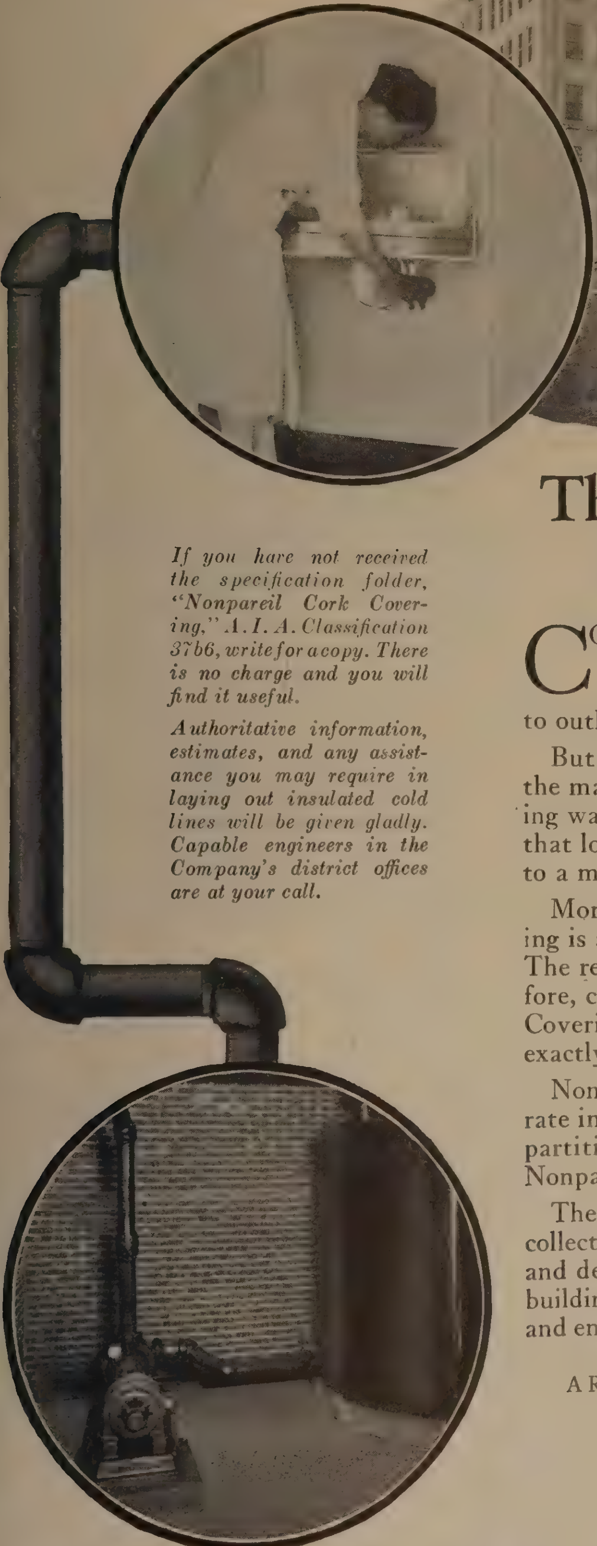
LABORATORY EQUIPMENT

Alberene Stone Co., 153 West 23rd Street, New York City
Booklet 8¾ x 11¼ in., 26 pp. Stone for laboratory equipment, shower partitions, stair treads, etc.

Duriron Company, Dayton, Ohio.
Duriron Acid, Alkali, Rust-Proof Drain Pipe and Fittings. Booklet 8½ x 11 in. 20 pp. Full details regarding a valuable form of piping.

Kewaunee Manufacturing Company, 141 Lincoln St., Kewaunee, Wis.
Kewaunee Book of Laboratory Furniture. Catalog. 7 x 10 in. 408 pp. Illustrated. Science and Vocational Laboratory Furniture for schools, colleges, technical institutes, hospitals, etc., including floor plans, illustrations of buildings and equipped

St. Mary's Hospital, St. Louis, Mo., where the entire drinking water system is insulated with Nonpareil Cork Covering in Ice Water Thickness. A. B. Groves, Architect.



If you have not received the specification folder, "Nonpareil Cork Covering," A. I. A. Classification 37b6, write for a copy. There is no charge and you will find it useful.

Authoritative information, estimates, and any assistance you may require in laying out insulated cold lines will be given gladly. Capable engineers in the Company's district offices are at your call.

The Drinking Water Lines in St. Mary's Hospital

COOL, satisfying, healthful drinking water is instantly available in St. Mary's Hospital, St. Louis, Mo., in summer as well as winter, for the entire system from cooler to outlets is insulated with Nonpareil Cork Covering.

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More important still, the efficiency of Nonpareil Cork Covering is a known quantity, a fixed quantity, a permanent quantity. The refrigeration requirements of drinking water systems, therefore, can be determined accurately in advance, if Nonpareil Cork Covering is used. The one who lays out the system knows exactly the capacity of the refrigerating machine required.

Nonpareil Cork Covering is moistureproof. It will not deteriorate in any way, and may be used on lines closed up in walls or partitions with full assurance against failure. Properly applied, Nonpareil Cork Covering will outlast the pipe.

The Company's Engineering Department has developed and collected data on all factors bearing on the proper layout and design of drinking water systems for various types of buildings. This information is available to all architects and engineers and will be submitted promptly on request.

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Nonpareil Cork Covering

for Cold Lines, Coolers and Tanks

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 130*

LABORATORY EQUIPMENT—Continued

laboratories, illustrations of equipment engineering data for mechanical ventilation and illustrations of special plumbing fixtures for laboratory use. A supplement is also issued for this work.

LANTERNS

Todhunter, Arthur, 414 Madison Ave., New York.

Hand Wrought Lanterns. Booklet. 5¼ x 6¼ in. 20 pp. Illustrated in Black and White. With price list. Lanterns appropriate for exterior and interior use, designed from old models and meeting the requirements of modern lighting.

LATH, METAL AND REINFORCING

The General Fireproofing Company, Youngstown, Ohio

Herringbone Metal Lath Handbook. 8½ x 11 in. 32 pp. Illustrated. Standard specifications for Cement Stucco on Herringbone.

Rigid Metal Lath and interior plastering.

Massillon Steel Joist Co., Canton, Ohio.

Massillon Metal Lath. Pamphlet. 8½ x 11 in., 8 pp., illustrated. Covers entire line of Diamond Flat Mesh Lath, ⅜-in. and ¾-in. Rib Lath,—complete line of 16-gauge channels, box channels, pencil channels, base and corner beads, tie wire and hanger wire.

Milwaukee Corrugating Co., Milwaukee, Wis.

The Milcor Manual. Booklet 8½ x 11 in. 64 pp. Illustrated. Covers Milcor methods and materials, metal lath, corner beads, steel domes, channels, etc.

Northwestern Expanded Metal Co., 1234 Old Colony Building, Chicago, Ill.

Northwestern Expanded Metal Products. Booklet. 8½ x 10¾ in. 16 pp. Fully illustrated, and describes different products of this company, such as Kno-burn metal lath, 20th Century Corrugated. Plaster-Sava and Longspan lath channels, etc.

Wickwire Spencer Steel Co., Inc., 41 East 42nd St., New York.

Clinton Wire Lath. Brochure. 9 x 11 in. 51 pp. A valuable booklet on metal lathing and the proper method of using it.

LAUNDRY CHUTES

The Pfaudler Company, 217 Cutler Building, Rochester, N. Y.

Pfaudler Glass-Lined Steel Laundry Chutes. Booklet. 5⅛ x 7⅜ in. 16 pp. Illustrated. A beautifully printed brochure describing in detail with architects' specifications THE PFAUDLER GLASS LINED STEEL LAUNDRY CHUTES. Contains views of installations and list of representative examples.

LIGHTING EQUIPMENT

Curtis Lighting, Inc., Chicago, Ill.

Catalog 393. 8 x 10 in. 34 pp. Illustrated. Describes and illustrates X-Ray reflectors for show cases and windows, and lighting fixtures for interior illumination of stores.

Curtis Lighting, Inc., 1119 West Jackson Boulevard, Chicago, Ill.

Lighting Specifications.—A. I. A. File 31 F. Looseleaf. 8½ x 11 in. Architectural detail plates on church, restaurant and home lighting. Complete details, illustrations and helpful ideas on direct and indirect illumination. Sent free to any registered architect who requests them on his own letterhead.

Pittsburgh Reflector Co., Pittsburgh, Pa.

Cove Lighting. Booklet. 8½ x 11 in. 24 pp. Gives complete data on lighting of this type.

Show Window Lighting. Booklet. 8½ x 11 in. 28 pp. A most useful work on lighting these important areas.

MAIL CHUTES

Cutler Mail Chute Company, Rochester, N. Y.

Cutler Mail Chute Model F. Booklet. 4 x 9¼ in. 8 pp. Illustrated.

MANTELS

Arthur Todhunter, 414 Madison Avenue, New York, N. Y.

Georgian Mantels. New Booklet. 24 pp. 5¼ x 6¼ in. A fully illustrated brochure on eighteenth century mantels. Folders give prices of mantels and illustrations and prices of fireplace equipment.

MARBLE

The Georgia Marble Company, Tate, Ga. New York Office, 1328 Broadway.

Why Georgia Marble is Better. Booklet. 3⅜ x 6 in. Gives analysis, physical qualities, comparison of absorption with granite, opinions of authorities, etc.

Convincing Proof. 3⅜ x 6 in. 8 pp. Classified list of buildings and memorials in which Georgia Marble has been used, with names of Architects and Sculptors.

METAL LATH—See Lath, Metal and Reinforcing

METALS

American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.

Reference Book. Pocket Ed. 2½ x 4½ in. 168 pp. Illustrated. Covers the complete line of Sheet and Tin Mill Products.

Apollo and Apollo-Keystone Galvanized Sheets. Catalog. 8½ x 11 in. 20 pp. Illustrated.

Research on the Corrosion Resistance of Copper Steel. Booklet. 8½ x 11 in. 24 pp. Illustrated. Technical information on results of atmospheric corrosion tests of various sheets under actual weather conditions.

METALS—Continued

The International Nickel Company, 67 Wall St., New York, N. Y.

The Choice of a Metal. Booklet. 6¼ x 3 in. 166 pp. Illustrated. Monel Metal—its qualities, use and commercial forms, briefly described.

METAL TRIM—See Doors and Trim, Metal

MILL WORK—See also Wood

Curtis Companies Service Bureau, Clinton, Iowa.

Architectural Interior and Exterior Woodwork. Standardized. Book. 9 x 11½ in. 240 pp. Illustrated. This is an Architects' Edition of the complete catalog of Curtis Woodwork, as designed by Trowbridge & Ackerman. Contains many color plates.

Better Built Homes. Vols. XV-XVIII incl. Booklet. 9 x 12 in. 40 pp. Illustrated. Designs for houses of five to eight rooms, respectively, in several authentic types, by Trowbridge & Ackerman, architects for the Curtis Companies.

Curtis Details. Booklet. 19½ x 23½ in. 20 pp. Illustrated. Complete details of all items of Curtis woodwork, for the use of architects.

Roddis Lumber & Veneer Company, Marshfield, Wis.

Roddis Doorman. Booklet. 10¼ x 7¼ in. 12 pp. Illustrated. Describes and illustrates the use of Roddis Doors for residences, clubs, hotels, etc.

Hartmann-Sanders Company, 2155 Elston Ave., Chicago, Ill.

Column Catalog. 7½ x 10 in. 48 pp. Illustrated. Contains prices on columns 6 to 36 in. diameter, various designs and illustrations of columns and installations.

The Pergola Catalog. 7½ x 10 in. 64 pp. Illustrated. Contains illustrations of pergola lattices, garden furniture in wood and cement, garden accessories.

MORTAR COLORS

Clinton Metallic Paint Co., Clinton, N. Y.

Clinton Mortar Colors. Folder. 8½ x 11 in. 4 pp. Illustrated in color, gives full information concerning Clinton Mortar Colors with specific instructions for using them.

Color Card. 6½ x 3¼ in. Illustrates in color the ten shades in which Clinton Mortar Colors are manufactured.

Something new in Stucco. Folder. 3½ x 6 ins. An interesting folder on the use of coloring matter for stucco-coated walls.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES

Cabot, Inc., Samuel, Boston, Mass.

Cabot's Creosote Stains. Booklet. 4 x 8½ in. 16 pp. Illustrated.

The Glidden Company, Cleveland, Ohio.

More Daylight. 8 x 10½ in. 20 pp. Portraying by illustrations and text the need and methods of modern mill painting.

Glidden Specification Book. 8 x 10¼ in. 12 pp. Complete architectural specifications for Glidden Paints and Varnishes, including Ripolin. Directions for the proper finishing of wood, metal plaster, concrete, brick and other surfaces.

Martin Varnish Co., 2500 Quarry St., Chicago, Ill.

Architectural Specifications. Booklet. 8½ x 11 in. 20 pp. Illustrated. Complete guide for Architects in specifying Martin Varish Products.

Your Floors. Booklet. 5 x 7 in. 20 pp. Illustrated. Explains fully how to finish all kinds of floors and woodwork with Martin's Pure Varnish.

A. C. Horn Company, Long Island City, N. Y.

Keramic Catalog. Booklet. 26 pp., 8½ x 11 in. A magnificent brochure illustrated in color, describing a valuable line of specialties for use with concrete floors—colorings, hardeners, waterproofing, etc.

National Lead Company, 111 Broadway, New York, N. Y.

Handy Book on Painting. Book. 5½ x 3¼ in. 100 pp. Gives directions and formulæ for painting various surfaces of wood, plaster, metals, etc., both interior and exterior.

Red Lead in Paste Form. Booklet. 6¼ x 3½ in. 16 pp. Illustrated. Directions and formulæ for painting metals.

Came Lead. Booklet. 8¾ x 6 in. 12 pp. Illustrated. Describes various styles of lead cames.

Cinch Anchoring Specialties. Booklet. 6 x 3½ in. 20 pp. Illustrated. Describes complete line of expansion bolts.

The Ripolin Company, Cleveland, Ohio.

Ripolin Specifications. Book. 8 x 10¼ in. 12 pp. Complete specifications and general instructions for the application of Ripolin, the original Holland enamel paint. Also directions for proper finishing of wood, metal, plaster, concrete, brick and other surfaces.

Why Ripolin Has an International Reputation. 8 x 10¾ in. 24 pp. Designed for the architect's files to illustrate the many varied uses of Ripolin Enamel Paint in all parts of the world. Profusely illustrated.

Ruberoid Co., The (formerly the Standard Paint Co.), 95 Madison Avenue, New York, N. Y.

Preservative Coating. Booklet. 6 x 9 in. 15 pp. Illustrated. Presents in a concise manner the properties and uses of the Ruberoid Company's various paint preparations.

Sherwin-Williams Company, 601 Canal Rd., Cleveland, Ohio.

Painting Concrete and Stucco Surfaces. Bulletin No. 1. 8½ x 11 in. 8 pp. Illustrated. A complete treatise with complete specifications on the subject of Painting of Concrete and Stucco Surfaces. Color chips of paint shown in bulletin.

Enamel Finish for Interior and Exterior Surfaces. Bulletin No. 2, 8½ x 11 in. 12 pp. Illustrated. Thorough discussion, including complete specifications for securing the most satisfactory enamel finish on interior and exterior walls and trim.

Painting and Decoratnig of Interior Walls. Bulletin No. 3. 8½ x 11 in. 20 pp. Illustrated. An excellent reference book on Flat Wall Finish, including texture effects, which are taking the country by storm. Every architect should have one on file.

Preferred for Exacting Plumbing Since 1878

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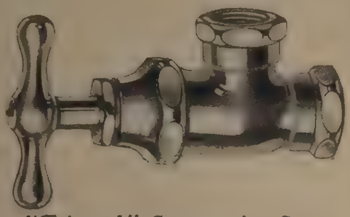

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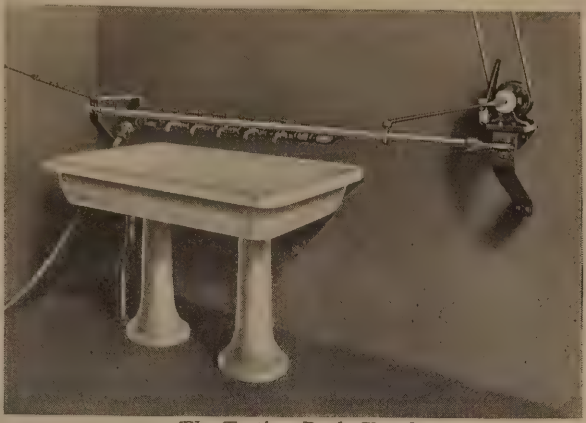
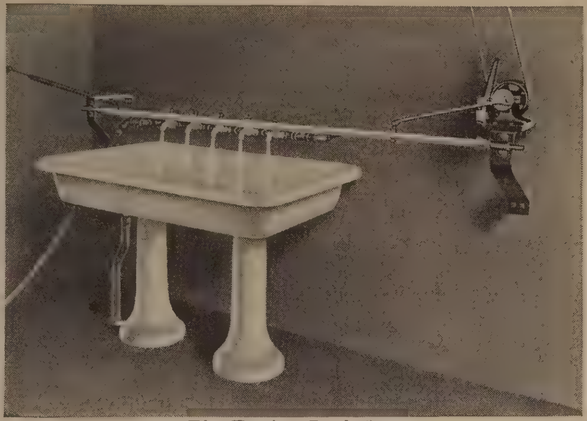
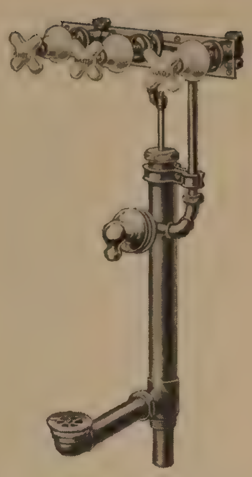


The Testing Rack Closed



The Testing Rack Open



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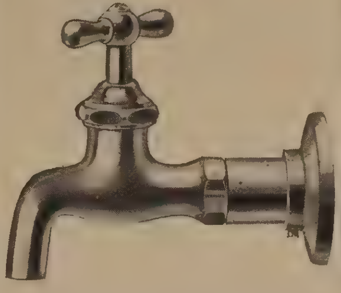

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Clow "Triumph" Faucets Did Not Drip After the Equal of Fifteen Years' Service

To assure that Clow "Triumph" Compression Trimmings will render long and dripless service —samples were put through a test that more than equalled fifteen years of actual service.

A group of "Triumph" Faucets were installed on a testing rack, as illustrated in the two pictures above. They were then opened and closed more than 200,000 times under city water pressure.

After the test wear on the seats and working units was accurately measured. The wear was so slight, that to all appearances the "Triumph" Faucets were ready for another "15 year" test. And not a single "Triumph" Faucet showed a sign of dripping or leaking.

These tests assure the architect or plumber that when he specifies or installs Clow "Triumph" Brass Trimmings he is giving his client or customer a maximum assurance against dripping, quickly worn out brass goods.

And if trouble should develop, any plumber can fix Clow "Triumph" Trimmings easily and quickly. The units of similar fittings are standardized to such an extent that they are readily interchangeable.

In addition, Clow "Triumph" Compression Brass Trimmings are popularly priced.

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TRIUMPH [The working units of "Triumph" fittings are readily interchangeable] BRASS

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 132*

PAINTS, STAINS, VARNISHES AND WOOD FINISHES—Continued

Protective Paints for Metal Surfaces. Bulletin No. 4. 8½ x 11 in. 12 pp. Illustrated. A highly technical subject treated in a simple, understandable manner.

Sonneborn Sons, Inc., L., Dept. 4, 116 Fifth Avenue, New York.
Paint Specifications. Booklet. 8½ x 10¾ in. 4 pp.

PANELING—See Millwork

PARTITIONS

Circle A Products Corporations, New Castle, Ind.
Circle A Partitions Sectional and Movable. Brochure. Illustrated. 8½ x 11¼ in. 32 pp. Full data regarding an important line of partitions, along with Erection Instructions for partitions of three different types.

Hauserman Company, E. F., Cleveland, Ohio.
Hollow Steel Standard Partitions. Various folders, 8½ x 11. Illustrated. Give full data on different types of steel partitions, together with details, elevations and specifications.

Improved Office Partition Company, 25 Grand St., Elmhurst, L. I.
Telesco Partition. Catalog. 8¾ x 11 in. 14 pp. Illustrated. Shows typical offices laid out with Telesco partitions, cuts of finished partition units in various woods. Gives specifications and cuts of buildings using Telesco.
Detailed Instructions for erecting Telesco Partitions. Booklet. 24 pp. 8½ x 11 in. Illustrated. Complete instructions, with cuts and drawings, showing how easily Telesco Partition can be erected.

Richards-Wilcox Mfg. Co., Aurora, Ill.
Partitions. Booklet. 7 x 10 in. 32 pp. Illustrated. Describes complete line of track and hangers for all styles of sliding, parallel, accordion and flush door partitions.

U. S. Gypsum Co., Chicago.
Pyrobar Partition and Furring Tile. Booklet. 8½ x 11 in. 24 pp. Illustrated. Describes use and advantages of hollow tile for inner partitions.

PIPE

American Brass Company, Waterbury, Conn.
Bulletin B-1. Brass Pipe for Water Service. 8½ x 11 in. 28 pp. Illustrated. Gives schedule of weights and sizes (I.P.S.) of seamless brass and copper pipe, shows typical installations of brass pipe, and gives general discussion of the corrosive effect of water on iron, steel and brass pipe.

Clow & Sons, James B., 534 S. Franklin St., Chicago, Ill.
Catalog "A". 4 x 6½ in. 700 pp. Illustrated. Shows a full line of steam, gas and water works supplies.

Copper & Brass Research Association, 25 Broadway, New York City.
Brass Pipe Plumbing for Your House. Booklet 7 x 10½ in., 16 pp. Useful work on the value of brass piping.

Duriron Company, Dayton, Ohio.
Duriron, Acid, Alkali, Rust-Proof Drain Pipe and Fittings, Booklet. 8½ x 11 in. 20 pp. Full details regarding a valuable form of piping.

National Tube Co., Frick Building, Pittsburgh, Pa.
"National" Bulletin No. 2. Corrosion of Hot Water Pipe, (8½ x 11 in. 24 pp.) Illustrated. In this bulletin is summed up the most important research dealing with hot water systems. The text matter consists of seven investigations by authorities on this subject.
"National" Bulletin No. 3. The Protection of Pipe Against Internal Corrosion (8½ x 11 in. 20 pp.) Illustrated. Discusses various causes of corrosion, and details are given of the deactivating and deaerating systems for eliminating or retarding corrosion in hot water supply lines.
"National" Bulletin No. 25. "National" Pipe in Large Buildings. 8½ x 11 in. 88 pp. This bulletin contains 254 illustrations of prominent buildings of all types, containing "National" Pipe and considerable, engineering data of value to architects, engineers, etc.
Modern Welded Pipe. Book of 88 pp. (8½ x 11 in.), profusely illustrated with halftone and line engravings of the important operations in the manufacture of pipe.

PLUMBING EQUIPMENT

American Brass Company, Waterbury, Conn.
Benedict Nickel. Illustrated pamphlet descriptive of Benedict Nickel White Metal for high grade plumbing fixtures.

Brunswick-Balke-Collender Co., 623 S. Wabash Ave., Chicago, Ill.
Whale-bone-ite Seat. Booklet. 3½ x 6¼ in. 4 pp. Illustrated.

Clow & Sons, James B., 534 S. Franklin Street, Chicago, Ill.
Catalog "M." 9¼ x 12 in. 184 pp. Illustrated. Shows complete line of plumbing fixtures for Schools, Railroads and Industrial Plants.

Crane Company, 836 S. Michigan Avenue, Chicago, Ill.
Plumbing Suggestions for Home Builders. Catalog. 3 x 6 in. 80 pp. Illustrated.
Plumbing Suggestions for Industrial Plants. Catalog. 4 x 6½ in. 43 pp. Illustrated.
Planning the Small Bathroom. Booklet. 5 x 8 in. Discusses planning bathrooms of small dimensions.

Douglas Co., The John, Cincinnati, Ohio.
Catalog "C." 10½ x 8 in. 200 pp. Illustrated. Illustrates and describes the Douglas complete line of China Sanitary plumbing fixture.
Booklet. Douglas Suggests for Your Home. 6 x 3½ in. 39 pp. Illustrated.

Duriron Company, Dayton, Ohio.
Duriron, Acid, Alkali, Rust-Proof Drain Pipe and Fittings, Booklet, 8½ x 11 in. 20 pp. Full details regarding a valuable form of piping.

Eljer Company, Fort City, Pa.
Complete Catalog. 3¾ x 6¾ in. 104 pp. Illustrated. Describes fully the complete Eljer line of standardized vitreous china plumbing fixtures, with diagrams, weights and measurements.
Standardized Sixteen Circular. 3¾ x 6¾ in. 18 pp. Illustrated.

Kohler Co., Kohler, Wis.
Catalog F. 7½ x 10⅝ in. 216 pp. Illustrates and describes the complete line of Kohler trade-marked plumbing ware.
Roughing-In Measurement Binder. 5 x 8 in., containing loose leaf sheets on all staple fixtures.

Maddock's Sons Company, Thomas, Trenton, N. J.
Catalog K. 10⅞ x 7⅞ in. 242 pp. Illustrated. Complete data on vitreous china plumbing fixtures with brief history of Sanitary Pottery.

Mueller Co., Decatur, Ill.
Catalog G, 8 x 11 in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in-measurements for built-in bath equipment.

Speakman Company, Wilmington, Del.
Speakman Showers and Fixtures. Catalog. 4½ x 7½ in. 250 pp. Illustrated. Catalog of Modern Showers and Brass Plumbing Fixtures, with drawings showing layouts, measurements, etc.
Toned Up in Ten Minutes. Booklet. 7½ x 10½ in. 16 pp. Illustrated. Modern Showers and Washups for Industrial Plants, showing the sanitary method of washing in running water.

PUMPS

Chicago Pump Company, 2300 Wolfram Street, Chicago, Ill. ... ...
The Correct Pump to Use. Portfolio containing handy data. Individual bulletins, 8½ x 11 in., on bilge, sewage, condensation, circulating, house, boiler feed and fire pumps.

Kewanee Private Utilities Co., 442 Franklin St., Kewanee, Ill. .....
Bulletin E. 7¾ x 10¼ in. 32 pp. Illustrated. Catalog. Complete descriptions, with all necessary data, on Standard Service Pumps, Indian Brand Pneumatic Tanks, and Complete Water Systems, as installed by Kewanee Private Utilities Co.

RAMPS

Ramp Buildings Corporation, 21 East 40th Street, New York.
Building Garages for Profitable Operation. Booklet. 8½ x 11 in. 16 pp. Illustrated. Discusses the need for modern mid-city parking garages, and describes the d'Humy Motoramp system of design, on the basis of its superior space economy and features of operating convenience. Gives cost analyses of garages of different sizes, and calculates probable earnings.
Garage Design Data. Series of informal bulletins issued in loose-leaf form, with monthly supplements.

The Trane Co., LaCrosse, Wis.
Trane Small Centrifugal Pumps. Booklet. 3¾ x 8 in., 16 pp. Complete data on an important type of pump.

The Hockenbury System Incorporated, Harrisburg, Pa., for years specializing in the financing of modern community hotels, of which they have financed a hundred such throughout the United States, has expanded its service to include the financing of MOTORAMP garage buildings. They now have available for distribution an 8¾ x 11 booklet entitled: "The Hitching Post Problem Is Here Again," in which they explain their solution of the street motor parking problem, which will be sent free to inquiring architects.

REINFORCED CONCRETE—See also Construction, Concrete

The General Fireproofing Company, Youngstown, Ohio.
Self-Sentering Handbook. 8½ x 11 in. 36 pp. Illustrated. Methods and specifications on reinforced concrete floors, roofs ands floors with a combined form and reinforced material.

Truscon Steel Company, 250 W. Lafayette Blvd., Detroit, Mich.
Shearing Stresses in Reinforced Concrete Beams. Booklet. 8½ x 11 in. 12 pp.

North Western Expanded Metal Company, Chicago, Ill.
Designing Data. Book. 6 x 9 in. 96 pp. Illustrated. Covers the use of Econo Expanded Metal for various types of reinforced concrete construction.

ROOFS (INSULATED)

Holorib, Inc., 2735 Prospect Ave., Cleveland, Ohio.
Holorib Insulated Roofs. Booklet, 16 pp., 8½ x 11 in.. Gives complete data regarding a valuable line of insulated roofing materials.

ROOFING

American Brass Company, Waterbury, Conn.
Service Sheets 43-1 and 43-2, standard specifications and methods of laying copper roofings, flashings, hips, valleys, decks, gutters and leaders.

American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, Pa.
Better Buildings. Catalog. 8½ x 11 in. 32 pp. Describes Corrugated and Formed Sheet Steel Roofing and Siding Products, black, painted and galvanized, with directions for application of various patterns of Sheet Steel Roofing in various types of construction.
Copper—Its Effect Upon Steel for Roofing Tin. Catalog. 8½ x 11 in. 28 pp. Illustrated. Describes the merits of high-grade roofing tin plates and the advantages of the copper-steel alloy.
The Testimony of a Decade. Booklet. 8½ x 11 in. 16 pp., with Graphic Chart and illustrations showing losses to various Iron and Steel Sheets for roofing, from atmosphere corrosion.

Barber Asphalt Co., Philadelphia, Pa.
Specifications, Genasco Standard Trinidad Lake Asphalt Built-up Roofing. Booklet. 8 x 10½ in. Gives specifications for use of several valuable roofing and waterproofing materials.

Philip Carey Co., Lockland, Cincinnati, Ohio.

EDEN SEMINARY*
Webster Groves, Mo.

The Beauty of Carney is Everlasting

WHAT stronger evidence of any age's greatness can be produced than the indelible history of that age, marked by the edifices still standing in its tribute? What a sacred privilege has been entrusted to the architectural profession of today—the privilege of writing an immortal story of our modern civilization, through the buildings it erects.

Such is the vision of the men responsible for this day's crowning epoch of architecture—the vision of beauty, everlasting.

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AETNA BRICKLAYING & CONTRACTING Co.,
Syndicate Trust Bldg.,
St. Louis, Mo.

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Specifications: 1 part Carney to 4 parts sand.

CARNEY
for Brick and Tile Mortar

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 134*

ROOFING—Continued

Architects Specifications for Carey Built-up Roofing. Booklet. 8 x 10¾ in. 24 pp. Illustrated. Complete data to aid in specifying the different types of built-up roofing to suit the kind of roof construction to be covered.

Carey Built-up Roofing for Modern School Buildings. Booklet. 8 x 10¾ in. 32 pp. Illustrated. A study of school buildings of a number of different kinds and the roofing materials adapted for each.

Copper & Brass Research Association, 25 Broadway, New York City

Copper Roofing. Brochure 8½ x 11 in., 28 pp. Third edition of a well-written manual on roofing.

Copper Flashings. Brochure 8½ x 11 in. 66 pp. Illustrated second edition of a valuable treatise on an important subject.

Federal Cement Tile Co., 608 So. Dearborn St., Chicago, Ill.

The Indestructible Roof. Booklet. 10 x 13 in. 32 pp. Illustrated. Illustrates and describes the installation of permanent concrete interlocking tile, tile with glass insets, flat tile and channel tile, on all types of industrial plants and other buildings with flat and pitched surfaces.

Standards. Booklet. 8½ x 11 in. 40 pp. Illustrated with full-page drawings. Gives full details of all forms of roof construction of steel structure, ridge and gutter construction, purlin arrangement, spacing, etc., for standard roofs.

Johns-Manville, Inc., Madison Ave. & 41st St., New York, N. Y.

Johns-Manville Building Materials. Book. 8½ x 11 in. 100 pp. Illustrated. A comprehensive catalog of various types of roofing for all forms of construction. Details of wall, floor and ceiling insulation; asbestos wood for fireproof construction; waterproofing, etc.

Johns-Manville Asbestos Shingles. Booklet. 8½ x 11 in. 24 pp. Illustrated. This booklet is profusely illustrated in colors, showing some very artistic blends of asbestos shingles with various types of architecture. Contains many valuable suggestions for the architect.

Ludowici-Celadon Company, 104 So. Michigan Ave., Chicago, Ill.

"Ancient" Tapered Mission Tiles. Leaflet. 8½ x 11 in. 4 pp. Illustrated. For architects who desire something out of the ordinary, this leaflet has been prepared. Describes briefly the "Ancient" Tapered Mission Tiles, hand-made, with full corners and designed to be applied with irregular exposures.

Milwaukee Corrugating Co., Milwaukee, Wis.

The Milcor Architectural Sheet Metal Guide. Booklet. 8½ x 11 in. 64 pp. Illustrated. Gives valuable technical sheet metal data.

Ruberoid Co., The (formerly the Standard Paint Co.), 95 Madison Avenue, New York, N. Y.

Instructions for Laying Built-up Roofs. Booklet. 8½ x 11 in. Illustrated.

Ruberoid Strip Shingle. Booklet. 3½ x 6¼ in. 16 pp. Illustrated in color.

U. S. Gypsum Co., Chicago.

Pyrobar Roof Construction. Booklet. 8 x 11 in. 48 pp. Illustrated. Gives valuable data on the use of tile in roof construction.

Sheetrock Pyrofill Roof Construction. Folder. 8½ x 11 in. Illustrated. Covers use of roof surfacing which is poured in place.

SASH CHAIN

Smith & Egge Mfg. Co., The, Bridgeport, Conn.

Chain Catalog. 6 x 8½ in. 24 pp. Illustrated. Covers complete line of chains.

SASH CORD

Samson Cordage Works, Boston, Mass.

Catalog. 3½ x 6¾ in. 24 pp. Illustrated. Covers complete line of rope and cord.

SCREENS

Athey Company, 6015 West 65th St., Chicago, Ill.

The Athey Perennial Window Shade. An accordian pleated window shade, made from translucent Herringbone woven Coutil cloth, which raises from the bottom and lowers from the top. It eliminates awnings, affords ventilation, can be dry-cleaned and will wear indefinitely.

Copper & Brass Research Association, 25 Broadway, New York City.

Screens That Keep Them Out. Booklet 6 x 9 in. 16 pp. A valuable brochure on wire mesh of rust-proof and pest-proof screen material.

The Higgin Manufacturing Co., Newport, Ky.

Your Home Screened the Higgin Way. Booklet. 8½ x 11½ in. 13 pp. Illustrated in colors. Complete description of Higgin Screens, designed to meet every need.

SEWAGE DISPOSAL

Kewanee Private Utilities, 442 Franklin St., Kewanee, Ill.

Specification Sheets. 7¾ x 10¼ in. 40 pp. Illustrated. Detailed drawings and specifications covering water supply and sewage disposal systems.

SHELVING-STEEL

David Lupton's Sons Company, Philadelphia, Pa.

Lupton Steel Shelving. Catalog D. Illustrated brochure, 40 pp., 8⅝ x 11 in. Deals with steel cabinets, shelving, racks, doors, partitions, etc.

STAINS—See Paints, Varnishes, Wood Finishes

STEEL JOISTS

Massillon Steel Joist Co., Canton, Ohio.

Massillon Bar Joists. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Describes the product and methods of its use.

Safe Loading Tables and Standard Specifications. Pamphlet. 8½ x 11 in. 8 pp. Gives standard specifications for Massillon Bar Joist Permanent Fireproof Floor and Roof Construction, and safe loading tables for all spans from 4 feet to 30 feet 6 inches. It also gives detailed dimensions of the 21 standard bar joists covering this range of span.

STEEL JOISTS—Continued

Handling and Erection of Massillon Bar Joists. Pamphlet. 8½ x 11 in. 12 pp. Illustrated. Intended chiefly to instruct the contractor in the different methods of using the product.

Massillon Metal Lath. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Detailed recommendations, with illustrations, regarding typical methods of fireproofing steel joist floor construction, steel columns and steel beams.

STONE, BUILDING

Indiana Limestone Quarrymen's Association, Box 766, Bedford, Ind.

Volume 3, Series A-3. Standard Specifications for Cut Indiana Limestone work, 8½ x 11 in. 56 pp. Containing specifications and supplementary data relating to the best methods of specifying and using this stone for all building purposes.

Vol. 1. Series B. Indiana Limestone Library. 6 x 9 in. 36 pp. Illustrated. Giving general information regarding Indiana Limestone, its physical characteristics, etc.

Vol. 4. Series B. Booklet. New Edition. 8½ x 11 in. 64 pp. Illustrated. Indiana Limestone as used in Banks.

Volume 5. Series B. Indiana Limestone Library. Portfolio. 11⅜ x 8¾ in. Illustrated. Describes and illustrates the use of stone for small houses with floor plans of each.

STORE FRONTS

Brasco Manufacturing Co., 5025-35 South Wabash Avenue, Chicago, Ill.

Portfolio. 8½ x 11 in. 32 pp. Illustrated. Selected examples of Brasco Copper Store Fronts suitable for different businesses and varying conditions of locations.

Catalog 28. 8½ x 10¾ in. 20 pp. Illustrated with plates. Details of Brasco Copper Store front construction. Also showcases, ventilator sashes.

Detail Sheets. Set of five sheets giving details and suggestions for store front designing enclosed in envelope convenient for filing.

Kawneer Co., The, Niles, Mich.

A Collection of Successful Designs. Catalog. 9¼ x 6½ in. 64 pp. Illustrated. Showing by use of drawings and photographs many types of Kawneer Solid Copper Store Fronts.

Catalog L, 1925 Edition. 8½ x 11 in. 32 pp. Illustrated. Details of copper store front construction.

Metal Store Fronts. Sheets, 17 x 22 in. Draftsmen's details of copper store fronts for use in tracing.

Zouri Drawn Metals Company, Chicago Heights, Ill.

Zouri Safety Key-Set Store Front Construction. Catalog. 8½ x 10½ in. 60 pp. Illustrated. Complete information with detailed sheets and installation instructions convenient for architects' files.

International Store Front Construction. Catalog. 8½ x 10 in. 70 pp. Illustrated. Complete information with detailed sheets and installation instructions convenient for architects' files.

SWIMMING POOL EQUIPMENT & STERILIZATION

R. U. V. Company, Inc., 383 Madison Avenue, New York City.

Water Sterilization by Means of Ultra Violet Rays. Booklet 8½ x 11 in. 16 pp. Full data on a system of purifying water.

Swimming Pool Sterilization. Booklet 8½ x 11 in. 24 pp. Describes a method purifying water in bathing pools.

Wallace & Tiernan Company, Newark, N. J.

The W. & T. Chlorometer, Technical Publication, No. 55. Booklet, 8½ x 11 in. 8 pp. Illustrated. A useful brochure dealing with the value of pure water and the importance of the chlorination process in sterilization.

STUCCO, MAGNESITE

Muller & Co., Franklyn R., Waukegan, Ill.

Everlastic Magnesite Stucco. Booklet. 8½ x 11 in.

TECHNICAL PAINTING

Toch Brothers, 110 East 42nd Street, New York City.

Specifications for Dampproofing, Waterproofing, Enameling and Technical Painting. Complete and authoritative directions for use of an important line of materials.

TERRA COTTA

National Terra Cotta Society, 19 West 44th St., New York, N. Y.

Standard Specifications for the Manufacture, Furnishing and Setting of Terra Cotta. Brochure 8½ x 11 in. 12 pp. Furnishing and Setting of Terra Cotta, consisting of complete detail Specification, Glossary of Terms Relating to Terra Cotta and Short Form Specification for incorporating in Architects' Specifications.

Color in Architecture. Revised Edition. Permanently bound volume 9⅛ x 12¼ in., containing a treatise upon the basic principles of color in architectural design, illustrating early European and modern American examples. Excellent illustrations in color.

Present Day Schools. 8½ x 11 in. 32 pp. Illustrating 42 examples of school architecture with article upon school building design by James O. Betelle, A. I. A.

Better Banks. 8½ x 11 in. 32 pp. Illustrating many banking buildings in terra cotta with an article on its use in bank design by Alfred C. Bossom, Architect.

THERMOSTATS—See Heating Equipment

TILE, HOLLOW

National Fire Proofing Co., 250 Federal St., Pittsburgh, Pa.

Standard Wall Construction Bulletin 174. 8½ x 11 in. 32 pp. Illustrated. A treatise on the subject of hollow tile wall construction.

Natco on the Farm. 8½ x 11 in. 38 pp. Illustrated. A treatise on the subject of fire safe and permanent farm building construction.

Natco Homes and Garages. Booklet. 7 x 10 in. 32 pp. Illustrated. Showing the use of Natco Hollow Tile for private residences.

"The gutter problem of the 'saw tooth' roof has been solved,"

says G. MORTON WOLFE

G. Morton Wolfe, prominent Buffalo architect, who devised the new "saw tooth" roof design used on the plant of The Houde Engineering Corporation in Buffalo.

"TO 'saw tooth' a factory roof in order to secure proper light distribution is good practice, but unfortunately, due to climatic conditions, this type of roof has not met with wide favor in the Buffalo territory," says G. Morton Wolfe, prominent Buffalo architect.

"However, the late development oɪ a leak-proof gutter design in which all metal flashing is eliminated, has solved the gutter problem. This construction is so devised that the movement of the wood roof will not cause the asphalt covering to pull or break. Due to this development, a 'saw tooth' roof can be used in climates where the temperature variation is over 100 degrees, with every assurance of freedom from gutter leaks."

SHOCK ABSORBERS

The plant of The Houde Engineering Corporation, 237 Winchester Avenue, Buffalo, N. Y., where Houdaille Shock Absorbers are manufactured. The "saw tooth" roof of this building is covered with Carey Built-up Roofing, insuring long years of protection against the severe climatic conditions of the Buffalo territory.

* * * * *

The roof of The Houde Engineering Corporation plant in Buffalo is a perfect example of Mr. Wolfe's new "saw tooth" design. It is covered with a Carey Built-up Roof, similar in type to those used on hundreds of other factories, schools, hospitals and large buildings in all parts of the country. And because of the Carey system of complete control of both felt and asphalt, this roof will insure long years of weather-tight protection.

THE PHILIP CAREY COMPANY
Lockland, Cincinnati, Ohio

Note to architects: Write for our Architects' Specification Book.

Carey
BUILT-UP ROOFS

"A ROOF FOR *EVERY* BUILDING"

The Lycoming, Williamsport, Pa.

Hotel Architects Are Needed!

CONTRACTS await the architect who is competent to design modern hotels of economic construction and operation. The field is almost without limit to those who can qualify.

The financing of these hotel projects can be provided by this organization.

More than 100 modern hotels from Coast to Coast, ranging in size from the modest but modern 50-room Inn type, to the more pretentious palaces of six and seven-hundred guest-rooms, have been financed by this corporation—financed at the lowest known cost!

The Lycoming, at Williamsport, Pa., shown above, is a splendid example.

Do you know of an under-hoteled city or town? Perhaps there's a contract there for you; when funds are available—and this corporation stands ready to provide them!

THE FINANCIALIST, a journal devoted to community hotel finance, will prove a valuable addition to your files. We'll be glad to place your name on our complimentary Architectural list, "F-5," without obligation.

The HOCKENBURY SYSTEM Inc.
HARRISBURG PENNSYLVANIA

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 136*

VACUUM CLEANING APPARATUS

The Spencer Turbine Company, Hartford, Conn.
Vacuum Cleaning Apparatus for all purposes. Booklet. 32 pp. Illustrated. Complete information on product, showing prominent buildings equipped with this system.

VAULT REINFORCING

Massillon Steel Joist Co., Canton, Ohio.
Massillon Bank Vault Reinforcing. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. General information, with illustrations, on typical bank vaults built with standardized steel reinforcing frames. The system includes chairs, spacers, and tie bars, complete and ready for the contractor to place in his forms for pouring the concrete.

VALVES

Crane Co., 836 S. Michigan Ave., Chicago, Ill.
No. 51. General Catalogue. Illustrated. Describes the complete line of the Crane Co.

Illinois Engineering Co., Racine Ave., at 21st St., Chicago, Ill.
Catalog. 8½ x 11 in. 88 pp. Illustrated.

Jenkins Bros., 80 White Street, New York.
The Valve Behind a Good Heating System. Booklet 4½ x 7¼ in. 16 pp. Color plates. Description of Jenkins Radiator Valves for steam and hot water, and brass valves used as boiler connections.
Jenkins Valves for Plumbing Service. Booklet. 4½ x 7¼ in. 16 pp. Illustrated. Description of Jenkins Brass Globe, Angle Check and Gate Valves commonly used in home plumbing, and Iron Body Valves used for larger plumbing installations.

Mueller Co., Decatur, Ill.
Catalog G, 8 x 11 in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in-measurements for built-in bath equipment.

VARNISH—See Paints, Stains, Varnishes

VENETIAN BLINDS

Burlington Venetian Blind Co., Burlington, Vt.
Venetian Blinds. Booklet, 7 in. x 10 in., 24 pages. Illustrated. Describes the "Burlington" Venetian blinds, method of operation, advantages of installation to obtain perfect control of light in the room.

VENTILATION

Duriron Company, Dayton, Ohio.
Exhaust Fans. Folder. 8 x 10½ in. 8 pp. Data regarding fans for ventilation.

Globe Ventilator Company, 205 River Street, Troy, N. Y.
Globe Ventilators Catalog. 6 x 9 in. 32 pp. Illustrated profusely. Catalog gives complete data on "Globe" ventilators as to sizes, dimensions, gauges of material and table of capacities. It illustrates many different types of buildings on which "Globe" ventilators are in successful service, showing their adaptability to meet varying requirements.

Peerless Unit Ventilation Company, Long Island City, N. Y.
PeerVent Heating and Ventilating Unit. Brochure 6 x 6½ in. Illustrated. Valuable data on apparatus for ventilating and heating buildings of different types.

Van Zile Ventilating Corporation, 280 Madison Avenue, New York, N. Y.
The Ventadoor Booklet. 6½ x 3½ in. 16 pp. Illustrated. Describes and illustrates the use of the Ventadoor for Hotels, Clubs, Offices, etc.

WALLPAPER

Wallpaper Mfrs. Assn., 461 Eighth Avenue, New York.
Wallpaper Magazine. Illustrated. 8 x 11 in. 32 pp. Published monthly to acquaint architects and interior decorators with many interesting and decorative uses for wallpaper.

WATERPROOFING

Carey Company, The Philip, Lockland, Cincinnati, Ohio.
Waterproofing Specification Book. 8½ x 11 in. 52 pp.

The General Fireproofing Company, Youngstown, Ohio.
Waterproofing Handbook. Booklet. 8½ x 11 in. 72 pp. Illustrated. Thoroughly covers subject of waterproofing concrete, wood and steel preservatives, dustproofing and hardening concrete floors, and accelerating the setting of concrete. Free distribution.

A. C. Horn Company, Long Island City, N. Y.
Waterproofing. Folder. 9½ x 11½ in. Contains folders giving data on excellent waterproofing and dampproofing materials.

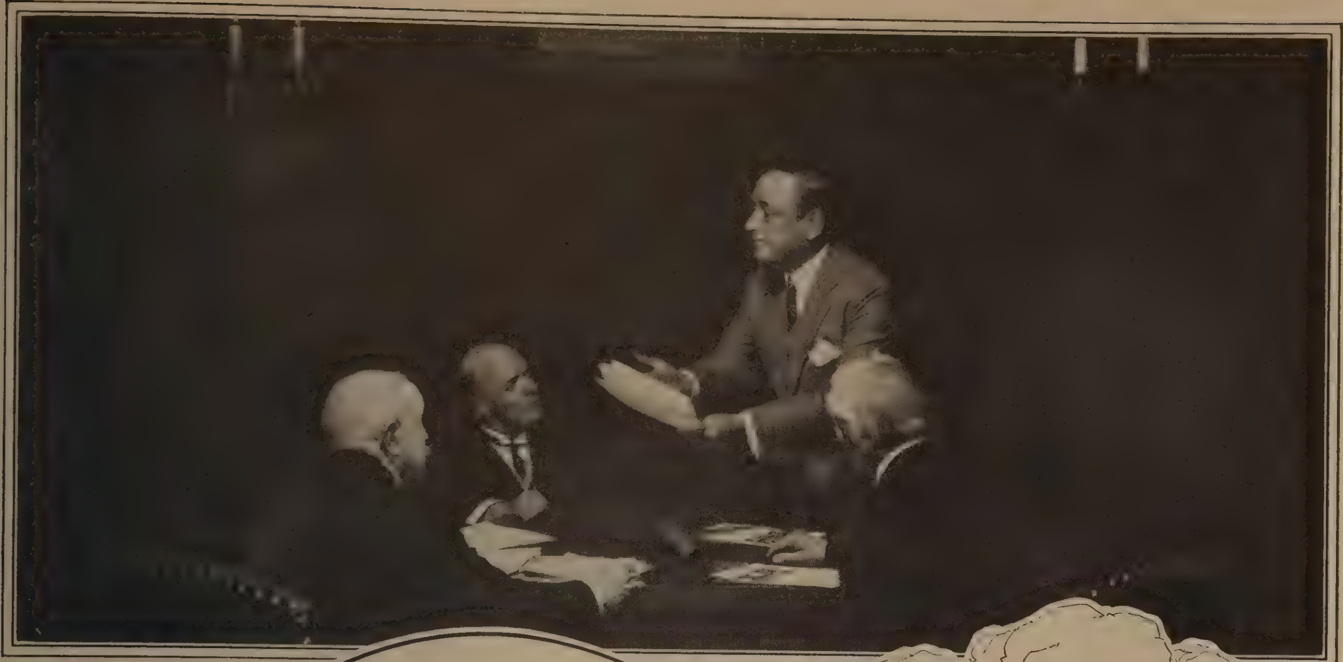
Master Builders Company, Cleveland, Ohio.
Mastertex: Waterproof Cement Paint in Colors. Folder 10½ x 12½ inches.

Ruberoid Co., The, 95 Madison Ave., New York.
Impervite. Circular. 8½ x 11 in. 4 pp. Illustrated. An integral water-proofing compound for concrete, stucco, cement, mortar, etc.

Sandusky Cement Co., Dept. F., Cleveland, Ohio.
Medusa Waterproofing. Booklet. 6¾ x 9 in. 38 pp. Illustrated.

Sonneborn Sons, Inc., L., 116 Fifth Ave., New York, N. Y.
Pamphlet. 3¼ x 8¾ in. 8 pp. Explanation of waterproofing principles. Specifications for waterproofing walls, floors, swimming pools and treatment of concrete, stucco and mortar.

Toch Brothers, 110 East 42nd Street, New York City.
Specifications for Dampproofing, Waterproofing, Enameling and Technical Painting. Complete and authoritative directions for use of an important line of materials.



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"SIGN this order—and if in sixty days you can find one P-A-X user who is dissatisfied, we will cancel the order. Meantime, we will be making up the equipment."

So said a P-A-X sales engineer fifteen years ago to an official of the Curtis Publishing Company, when it was suggested that an additional sixty days investigation be made before ordering P-A-X. The order was signed, and the investigation was thorough; but users throughout the country had only praise to offer. The equipment was installed; and when the Curtis Publishing Company erected its new building on Independence Square, Philadelphia, a few years ago, P-A-X was chosen for it as a natural result of their experience.

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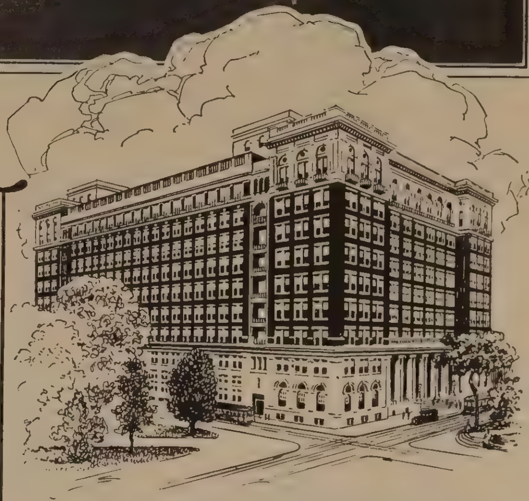

The Curtis Publishing Company's building, Independence Square, Philadelphia, was equipped with a 266 line P-A-X in 1917.

The value of P-A-X in meeting the stringent requirements of the publishing business is evidenced by its adoption by such firms as The Curtis Publishing Co., P. F. Collier & Son, Funk & Wagnalls Co., McGraw-Hill Co., and leading newspapers including The Chicago Tribune, New York Times, Philadelphia Public Ledger, Philadelphia Inquirer, Los Angeles Times, Detroit News, and many others.

STROWGER AUTOMATIC

The P-A-X is, fundamentally, a private automatic telephone exchange built of the same Strowger type of automatic telephone equipment being so widely adopted for city service. The P-A-X may be furnished to include and co-ordinate such services as code call, conference, executive's priority, emergency alarm, etc., to meet individual needs.

Automatic Electric Inc.

Engineers, Designers and Manufacturers of the Automatic Telephone In Use the World Over.

Home Office and Factory, CHICAGO, ILL. **Branch Offices in all principal cities.**

Bethlehem Presbyterian Church, Philadelphia
Furness, Evans & Co., Architects
Ventilated Through Midwest Air Filters

Filtered Air in the Ventilation of Churches

People who are least able to resist the attacks of bacteria and atmospheric dust are sure to be present at church services, however reluctant they may be to join other public gatherings.

These semi-invalids, infirm or elderly people, and individuals with colds or the beginnings of more serious illness are usually a source of contagion as well, due to the germ-carrying effect of the dust particles in air.

This reason alone should lead you to consider the use of air filters in every church you design. Of course, the usual effects of dust on decorations and fixtures is also a factor.

Midwest Air Filters have thoroughly demonstrated their superiority in church ventilation by many successful installations.

We are ready to assist you in laying out air filter installations for any buildings on which you are working. Ask for Bulletin AFC-1.

MIDWEST AIR FILTERS
INCORPORATED
BRADFORD, PA.
Offices in Principal Cities

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—*Continued from page 138*

WEATHER STRIPS

Chamberlin Metal Weather Strip Company, 1644 Lafayette Boulevard, Detroit, Mich.

Chamberlin Metal Weather Strip Details, 1925 edition. Catalog 8½ x 11 in. 48 pp. Complete specifications and full-sized details. With or without 9 x 11¾ in. folder conforming to A. I. A. filing system. May also be used in loose leaf form.

Excluding Cold and Dust with Chamberlin for 32 years. Booklet 5⅛ x 7⅜ in. 16 pp. Illustrated. Completely and interestingly illustrates application of Chamberlin equipment.

The Higgin Manufacturing Co., Newport, Ky.

Higgin All-Metal Weather Strips. Booklet. 6 x 9 in. 21 pp. Illustrated in colors. Describes various types of Higgin Weather Strips for sealing windows and doors against cold and dust.

WINDOWS

David Lupton's Sons Company, Philadelphia, Pa.

Lupton Pivoted Sash, Catalog 12-A. Booklet 48 pp. 8⅝ x 11 in. Illustrates and describes windows suitable for manufacturing buildings.

WINDOWS, CASEMENT

Richards-Wilcox Mfg. Co., Aurora, Ill.

Casement Window Hardware. Booklet. 24 pp. 8½ x 11 in. Illustrated. Shows typical installations, detail drawings, construction details, blue-prints if desired. Describes AIR-way Multifold Window Hardware.

Crittall Casement Window Co., 10951 Hearn Ave., Detroit, Mich.

Catalog No. 22. 9 x 12 in. 76 pp. Illustrated. Photographs of actual work accompanied by scale details for casements and composite steel windows for banks, office buildings, hospitals and residences.

Hope & Sons, Henry, 103 Park Ave., New York, N. Y.

Catalog. 12¼ x 18½ in. 30 pp. Illustrated. Full size details of outward and inward opening casements.

David Lupton's Sons Company, Philadelphia, Pa.

Lupton Casement of Copper-Steel. Catalog C-122. Booklet 16 pp. 8⅝ x 11 in. Illustrated brochure on casements, particularly for residences.

WINDOWS, STEEL AND BRONZE

The Kawneer Company, Niles, Mich.

Kawneer Simplex Windows. Catalog. 8½ x 10½ in. 16 pp. Illustrated. Complete information, with measured details, of Kawneer Simplex Weightless Reversible Window Fixtures, made of solid bronze. Shows installations in residences and buildings of all sorts.

Detail Sheets and Installation Instructions. Valuable for architects and builders.

Metal Windows. Catalog. 8½ x 11 in. 18 pp. Illustrated. Features double-lining and casement windows of metal.

David Lupton's Sons Company, Philadelphia, Pa.

A Rain-shed and Ventilator of Glass and Steel. Pamphlet, 4 pp. 8⅝ x 11 in. Deals with Pond Continuous Sash, Sawtooth Roofs, etc.

How Windows Can Make Better Homes. Booklet. 3⅞ x 7 in. 12 pp. An attractive and helpful illustrated publication on use of steel casements for domestic buildings.

Truscon Steel Company, 250 W. Lafayette Blvd., Detroit, Mich.

Truscon Steel Windows. Catalog. 8½ x 11 in. 80 pp. Illustrated. Contains complete data on all types of Truscon Steel Windows.

WOOD—See also Millwork

American Walnut Mfrs. Association, 618 So. Michigan Blvd., Chicago, Ill.

American Walnut. Booklet. 7 x 9 in. 45 pp. Illustrated. A very useful and interesting little book on the use of Walnut in Fine Furniture with illustrations of pieces by the most notable furniture makers from the time of the Renaissance down to the present.

Real American Walnut Furniture. Folder. 8½ x 11 in. 4 pp. Illustrated. Tells how to identify the genuine and avoid the substitute in buying "Walnut" furniture.

California White and Sugar Pine Mfrs. Assn., San Francisco, Calif.

Information Sheet No. 1, California White Pine; Information Sheet No. 2, California Sugar Pine. Illustrated booklets 8 x 10½ in. First of a series of Information Sheets on these woods and their uses for construction and finish.

Curtis Companies Service Bureau, Clinton, Iowa.

Better Built Homes. Vols. XV-XVIII, incl. Booklet. 9 x 12 in. 40 pp. Illustrated. Designs for houses of five to eight rooms, respectively, in several authentic types, by Trowbridge & Ackerman, architects, for the Curtis Companies.

Long-Bell Lumber Co., Kansas City, Mo.

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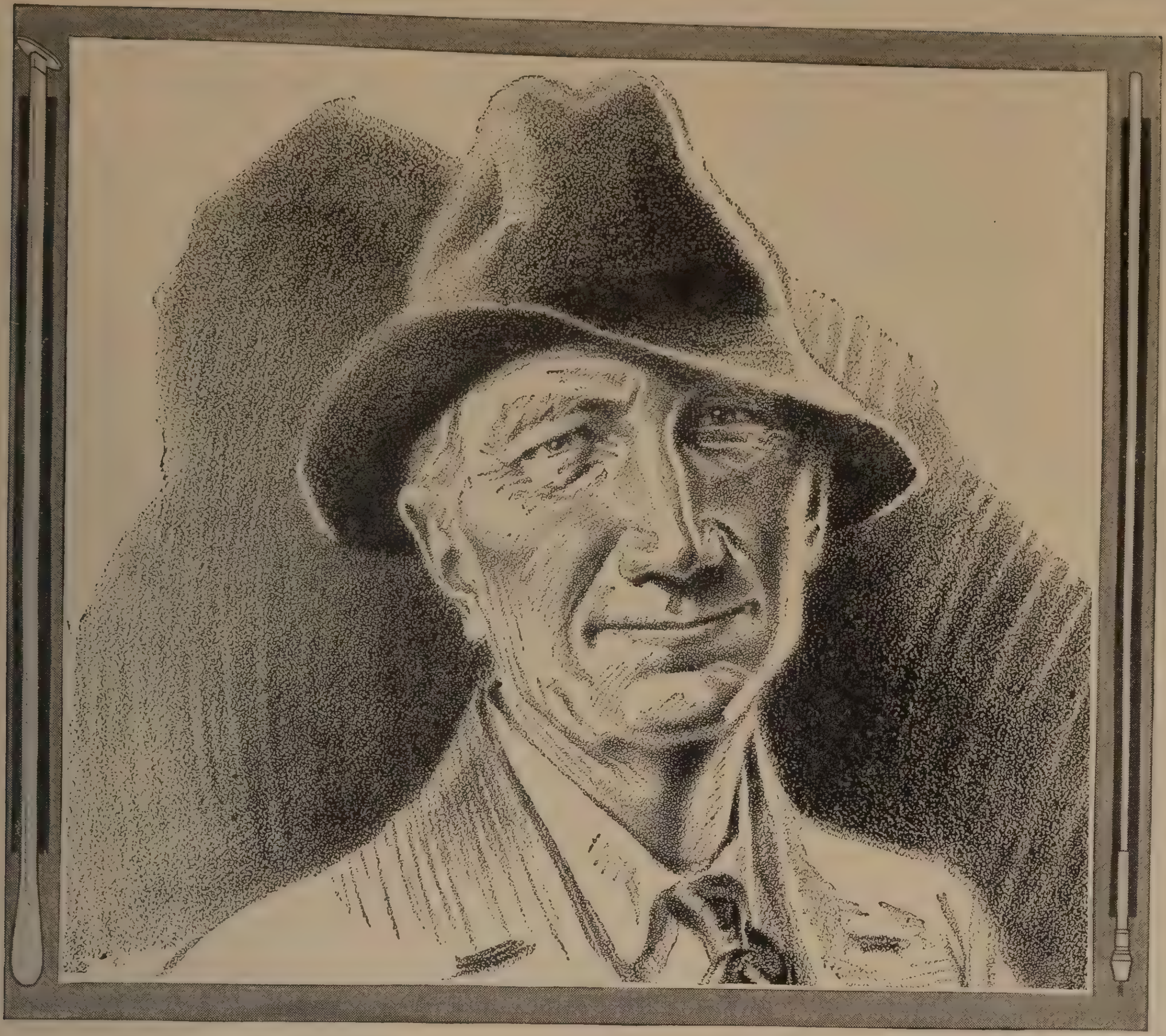

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Look for "Cal" Pine's message next month on "Construction"

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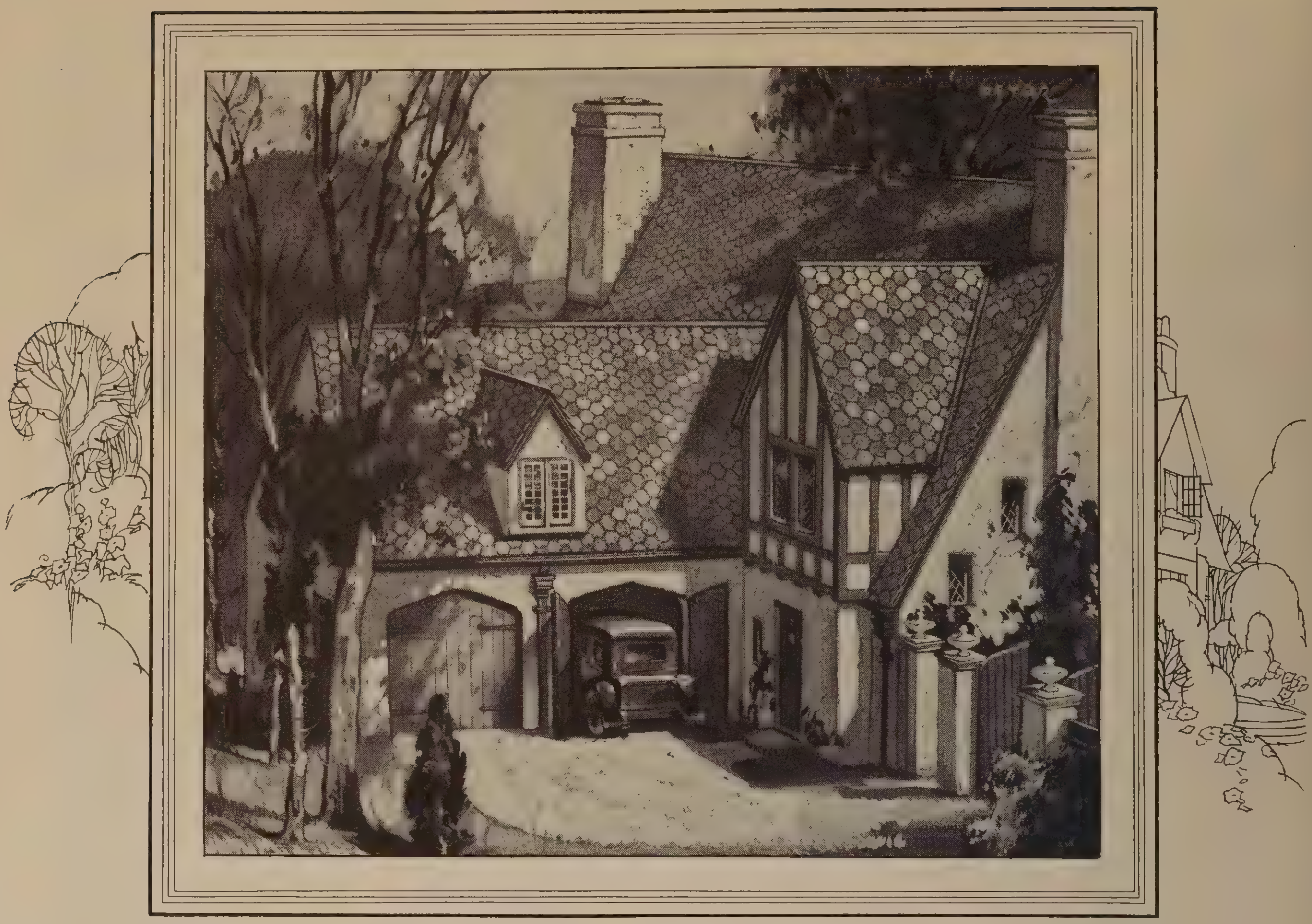

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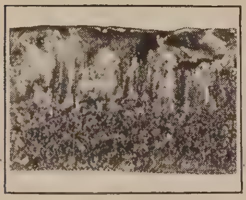

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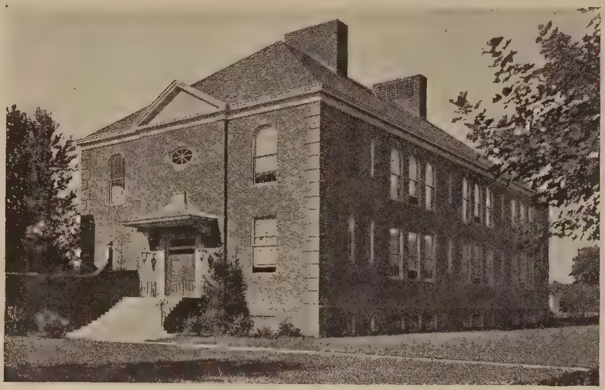

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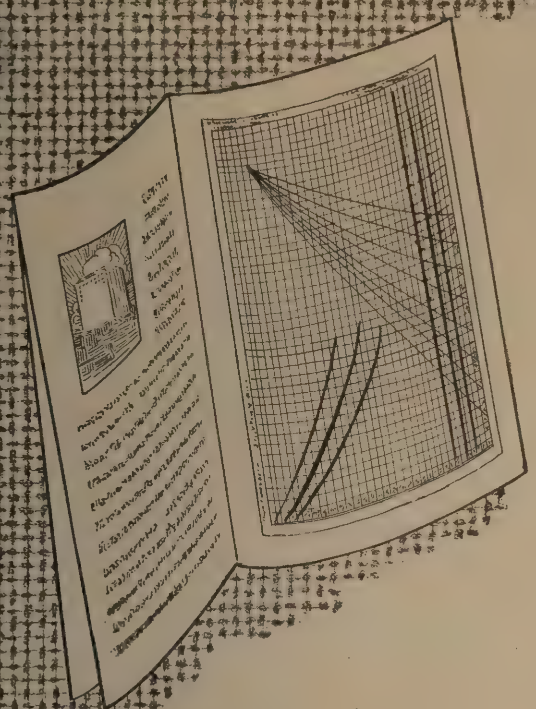

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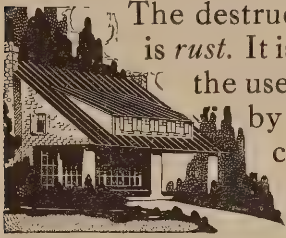

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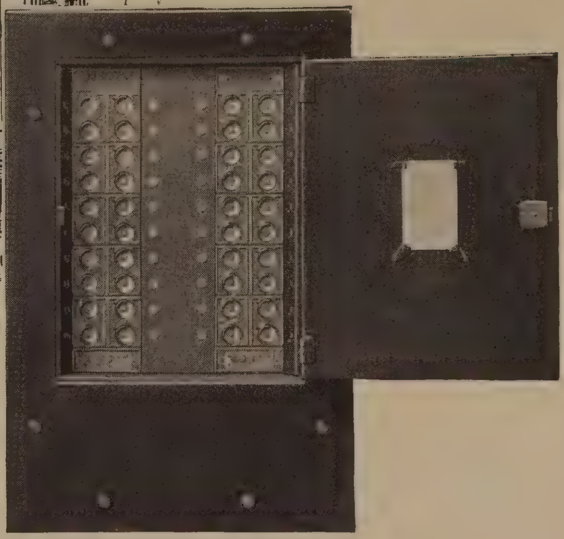

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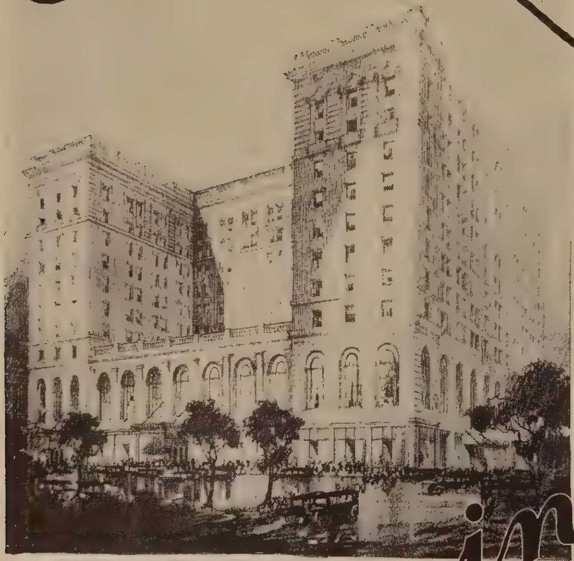

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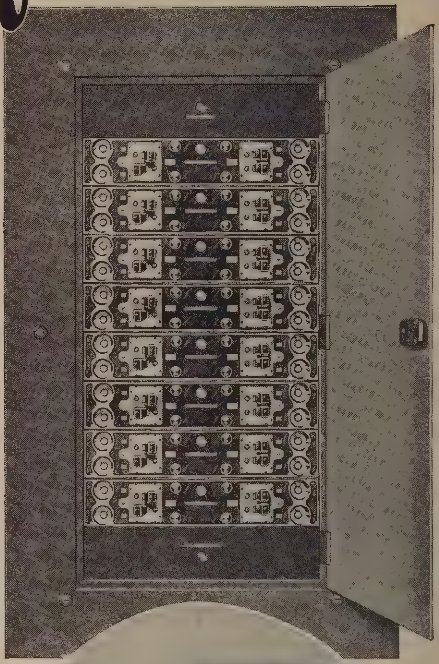

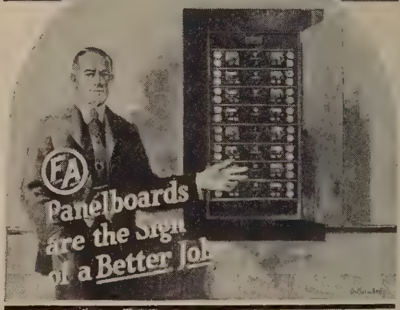
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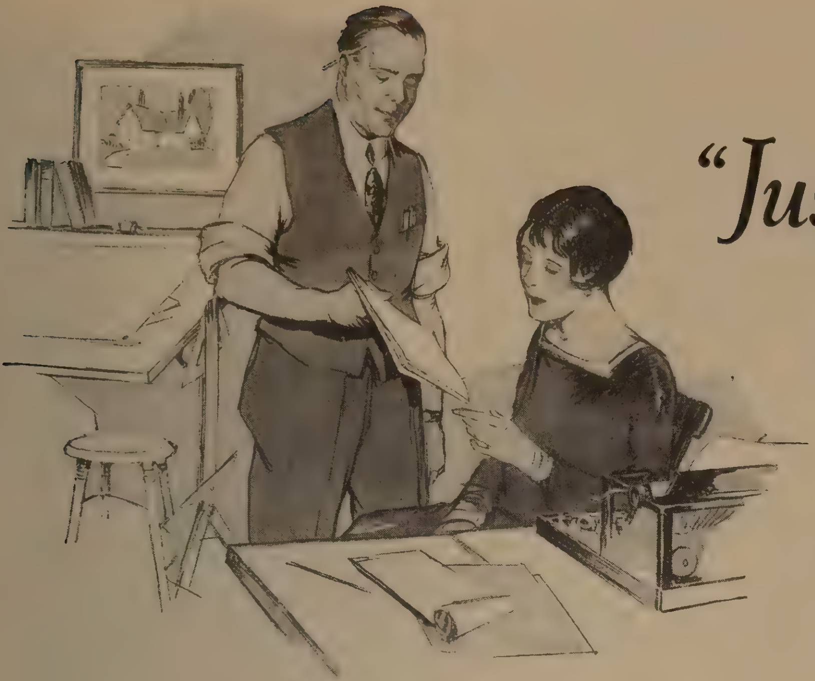

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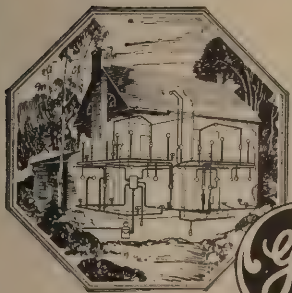

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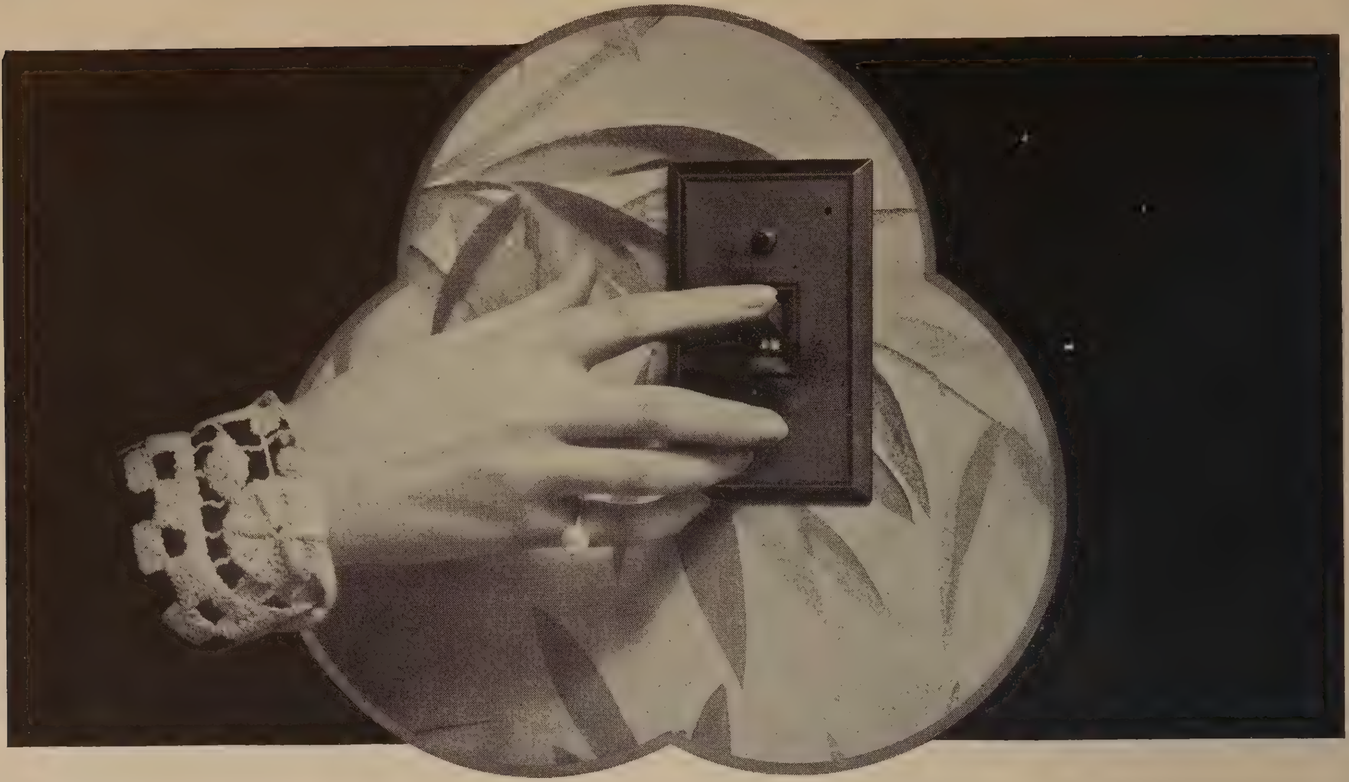

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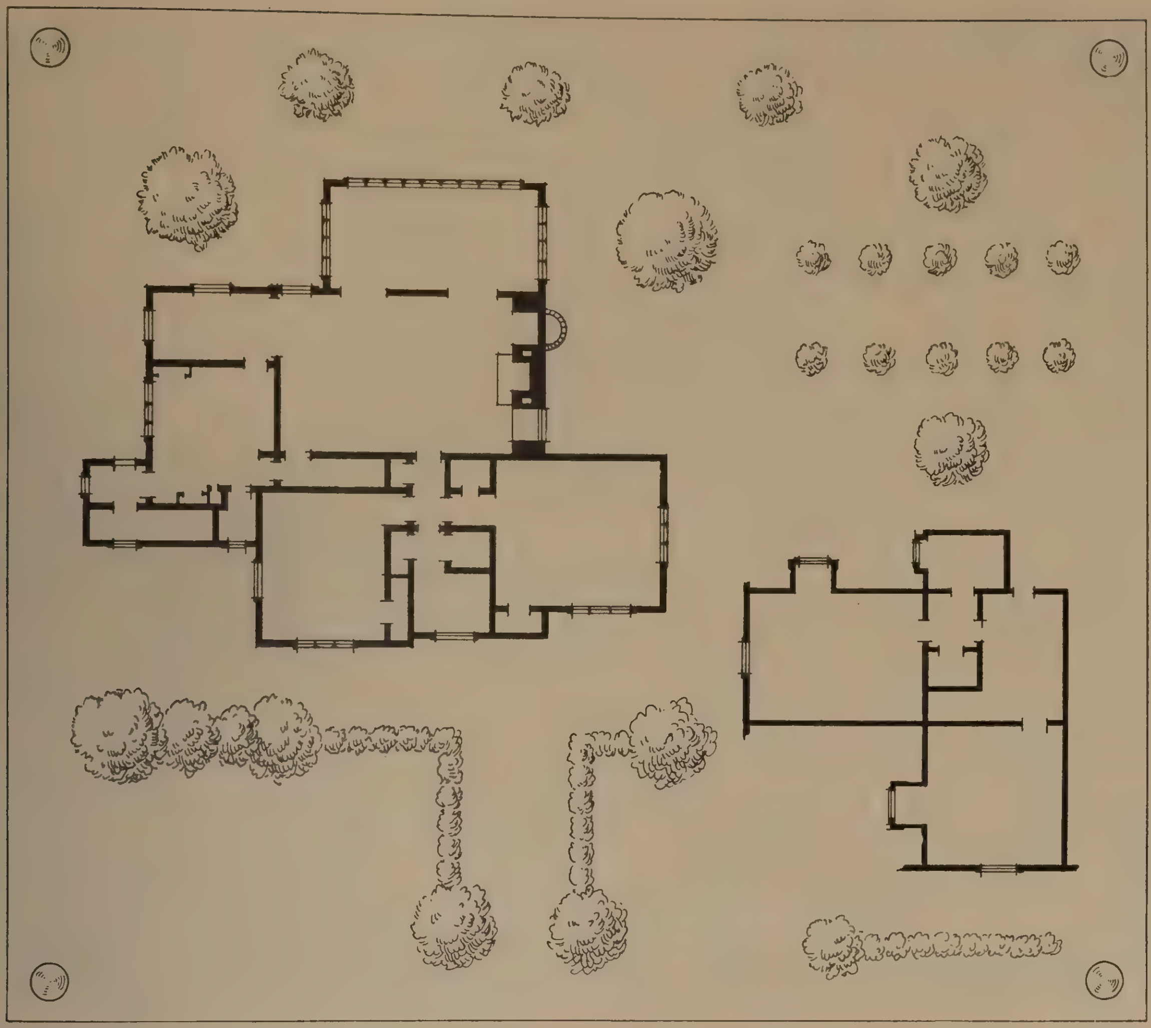

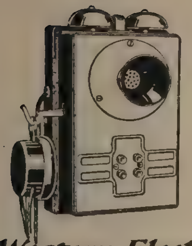

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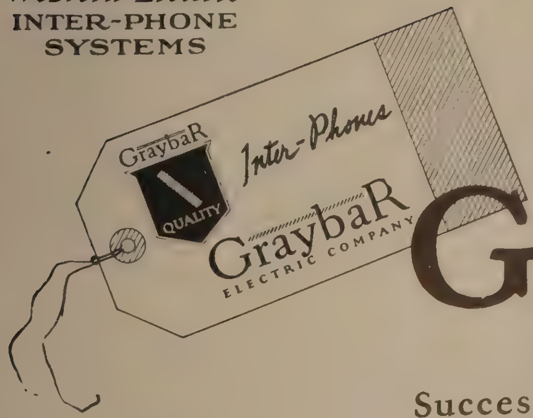

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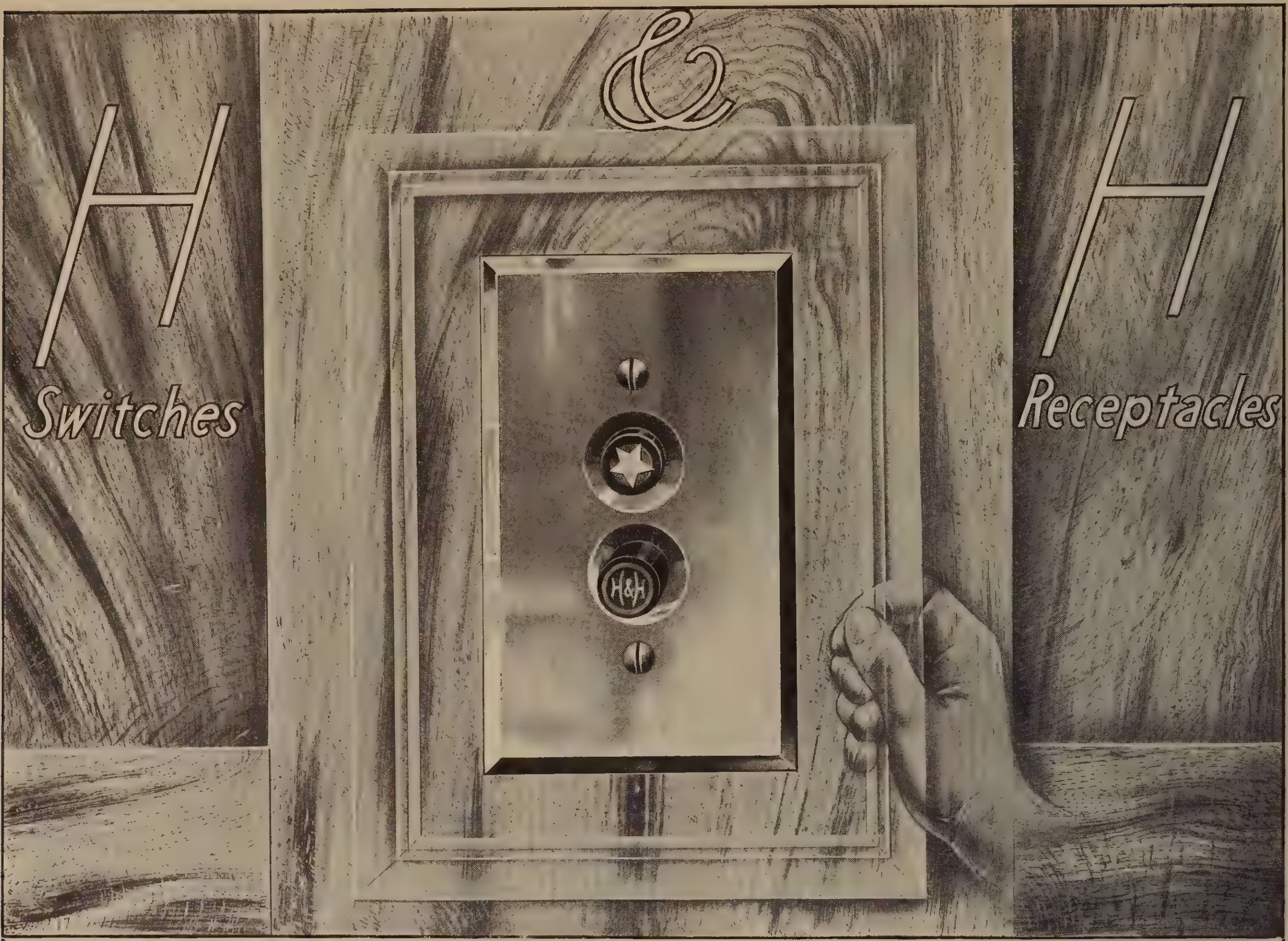

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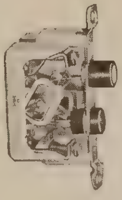

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FOR many reasons. Lower cost of maintenance, because the "tilt out" cap eliminates danger of globe breakage when dead lamps must be replaced, and because the globe is dust-proof. Lower depreciation rate on light output, since dust cannot collect inside the globe.

And—because Westinghouse illuminating engineers proved to the building owners that better illumination would be provided by ceiling type Sol-Lux [the ceilings are but nine feet above the floor] and at a much lower installation cost than that of the suspension type lighting units originally considered.

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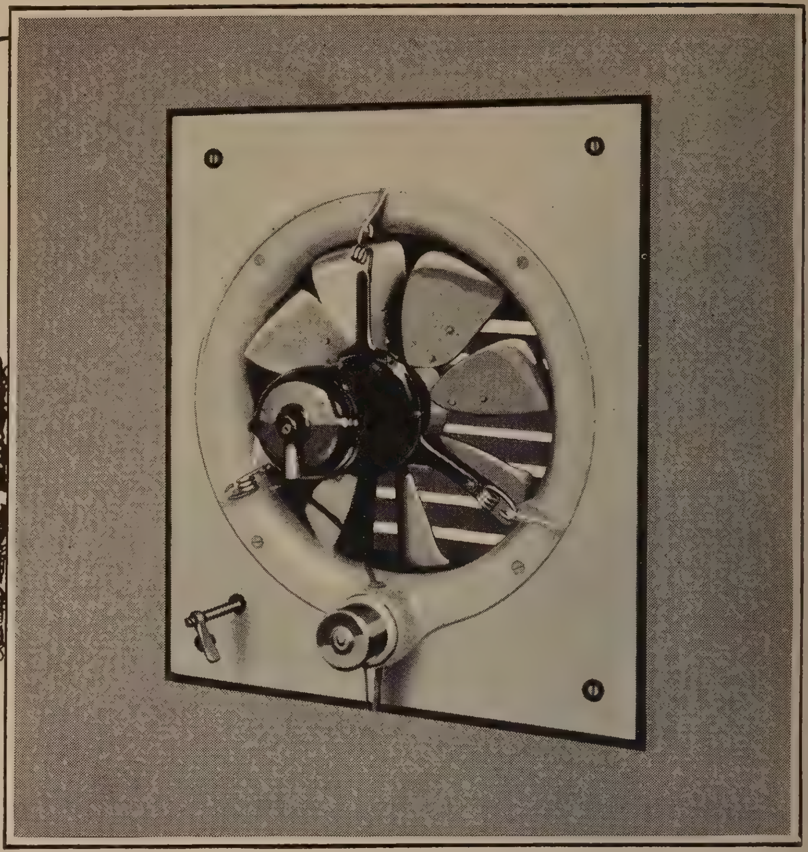
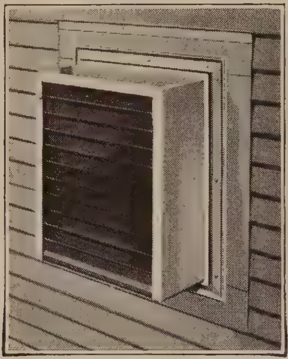
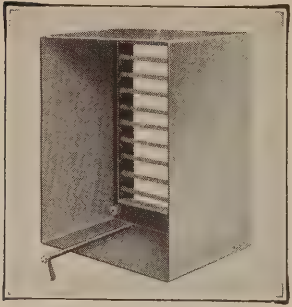


Interior View of (Patented) Built in Unit.



Exterior view of permanent wall fixture with louvers open



Box or sleeve which is built into wall when house is under construction

Interior showing fan in kitchen. Note the neatness of this compact unit

Built in Ventilation for Attractive Homes

The attractiveness, the appearance and conveniences of the home are remembered long after the price is forgotten. The final touch in a well designed home is the provision of modern conveniences and appliances. Built-in ventilation is the last word in modern home design. Now with the attractively designed American Blower Permanent Wall Fixture, built-in ventilation can be installed, when building, at no more expense than a small window. The cost of the unit and fan is surprisingly low and it can be paid for in the contract price of the home—if you include an American Blower Household Ventilating Fan and Permanent Wall Fixture in your electrical specifications

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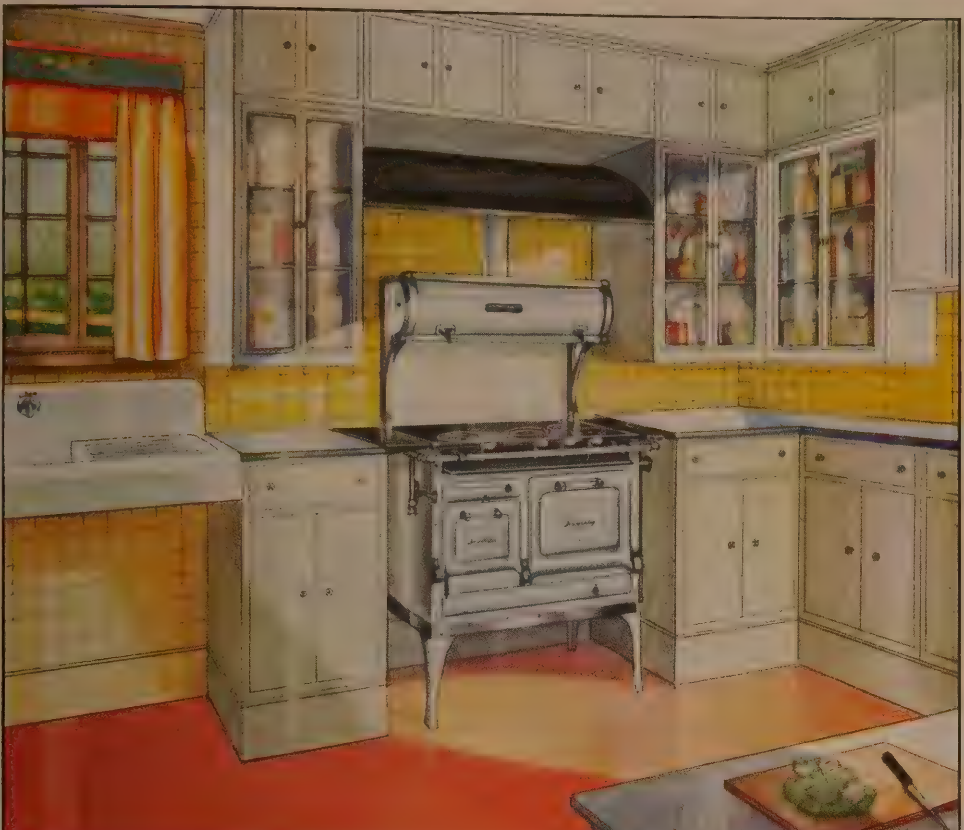

A New-Style Kitchen as Arranged by Leigh French—Architect

NOW....INTO THE KITCHEN

....An Undreamed-of Smartness

STRAIGHTENED, smoothened, are the lines of kitchen arrangement. Away with shadowy corners. Away with jutty protruberances. Gone is the most stubborn offender of simplicity of line; gone is the protruding, old-fashioned gas range. In its place stands the new Smoothtop Gas Range. Note how Smoothtop's flat surfaces plane off with those of other kitchen furniture. See how the smart lineal effect is carried on, unbroken, by Smoothtop's smart console lines! Projecting far less into the room, Smoothtop, nevertheless, provides far greater cooking surface. Too, Smoothtop cuts off no light—for the oven, no longer a box perched high on one end, has been lowered to convenient, table-drawer level....The passing of the old range and the coming of Smoothtop have inspired a distinctly new kitchen style; have created an undreamed-of kitchen smartness....Six new style kitchens, as planned by six prominent architects, are shown in the book couponed below. How interesting to study them—and to create a kitchen of one's own, in this smart, new style!

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REG. U.S. PAT. OFF.

GAS RANGE

WITH SUPER VULCAN BURNERS

There is only one Smoothtop, a Vulcan product. It is fully protected by patents in United States, Canada & Great Britain

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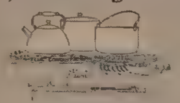
Better—Easier

It revolutionizes cookery, too—this new Smoothtop Gas Range. Stews, soups, pot roasts are done by a new, savory simmering. Vegetables are finished with the new speed cooking; it retains all their precious mineral salts and vitamins. Entire meals kept hot till time to serve. All this with far less watching, less fussing, less cleaning.

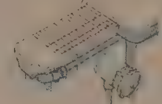
Super Vulcan Burner

This Smoothtop cookery has really been created by the Super-Vulcan Burner. Note the aeration plate over the gas port-holes. This creates the hottest, steadiest gas flame known. Yet, no more gas is consumed.



4 Cooking Zones

Each burner heats 4 distinct cooking zones. Speed, Boiling, Simmering, Warming. All without regulating the gas-jet. You cook with a graduated hot-plate. It's wonderful.



Oven Heat Regulator

75% of all cooking is done top-stove. But Smoothtop's equipment is complete, even to the little control wheel which gives oven heat regulation.

* * *

"How to Plan the New-Style Kitchen"

Contains beautiful full color illustrations of 6 new-style kitchens, as planned by 6 leading architects. Tells how to achieve the new kitchen smartness, how to improve spacing, placing and lighting. 10c in stamps.

"Smoothtop Cookery"

is a cook book with a new viewpoint. Solves meal planning and work planning. Shows how to do more cooking with less trouble; how to use "left-overs" and still have more delicious meals. Edited by Sarah Field Splint. 25c in stamps.

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Kitchens in the Wiltshire Apartments are furnished with Quick Meal Gas Ranges with Lorain Oven Heat Regulators. (See picture of representative kitchen below).

A New Standard for Kitchen Equipment

WOMEN who rent new apartments consider kitchens from a new viewpoint. They want more than a pleasant, convenient workshop. Busy, modern women must have kitchens furnished with Gas Ranges with Lorain Self-regulating Ovens so that they need not stay in the kitchen.

The Red Wheel of the Lorain Oven Heat Regulator measures the heat, watches the oven, automatically maintaining any desired degree of oven temperature for any length of time. It enables the user to leave the kitchen while foods are cooking in the oven—it means less time in the kitchen, and better results with all oven-cooking.

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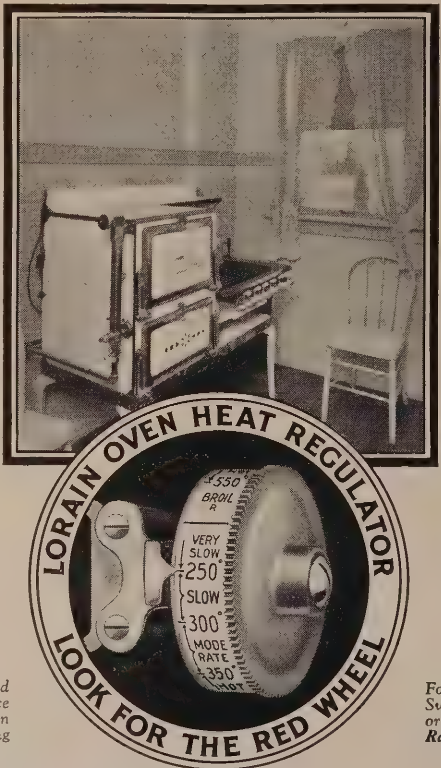

One easy turn of the Lorain Red Wheel gives the housewife a choice of any measured and controlled oven heat for any kind of oven cooking or baking.

For specific data, see 20th Edition Sweet's Catalog, Pages 2769-2778 or send for our ***Handbook on Gas Ranges for Architects and Builders.***

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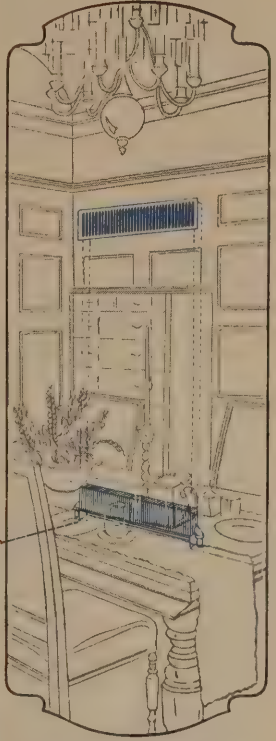
Applied to Room Designed by MARSHALL FIELD & COMPANY · Chicago



How the Herman Nelson Invisible Radiator fits in the wall is shown by this phantom view

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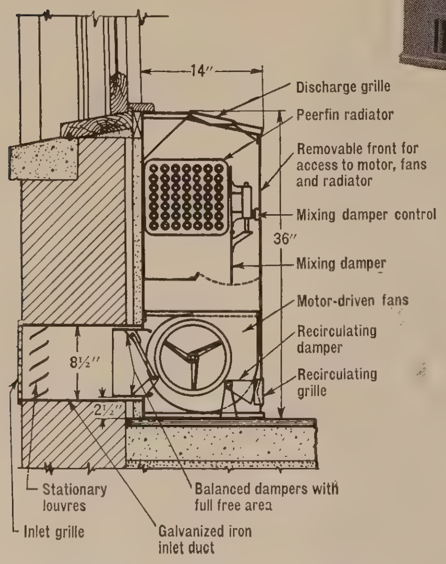
PEERVENT

Unit System Heating and Ventilation

Above.— McGregor Library, Highland Park, Mich., equipped throughout with PeerVent Units. Architects: Tilton & Githens, New York; Burrowes & Eurich, Detroit. Heating-Ventilating Contractors: Legett-Doll-Forster Co., Detroit.

Left.—Standard type PeerVent Unit, 36 inches high, 14 inches deep. Concealed types also can be furnished, with many special adaptations for various architectural requirements.

In addition to the PeerVent heating-ventilating unit described on this page, we are prepared to furnish heating units especially adapted to use in factories, mills, garages, and other industrial buildings. If you are planning a building of that type, be sure to send for literature on Peerless INDUSTRIAL Heating Units. They cost less to install and are far more satisfactory than ordinary steam radiation.



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The PeerVent Unit System of Heating and Ventilating is perhaps best known among those who specialize on school buildings. This is natural because the requirements of school ventilation are commonly specified by law, and the PeerVent System meets all state codes; but PeerVent Units are equally suitable for any buildings where many people congregate.

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Send for the PeerVent Catalogue. Tell us what type of building you have in mind and we will refer you to PeerVent installations in such buildings. If you prefer to see our local sales representative, please wire collect.

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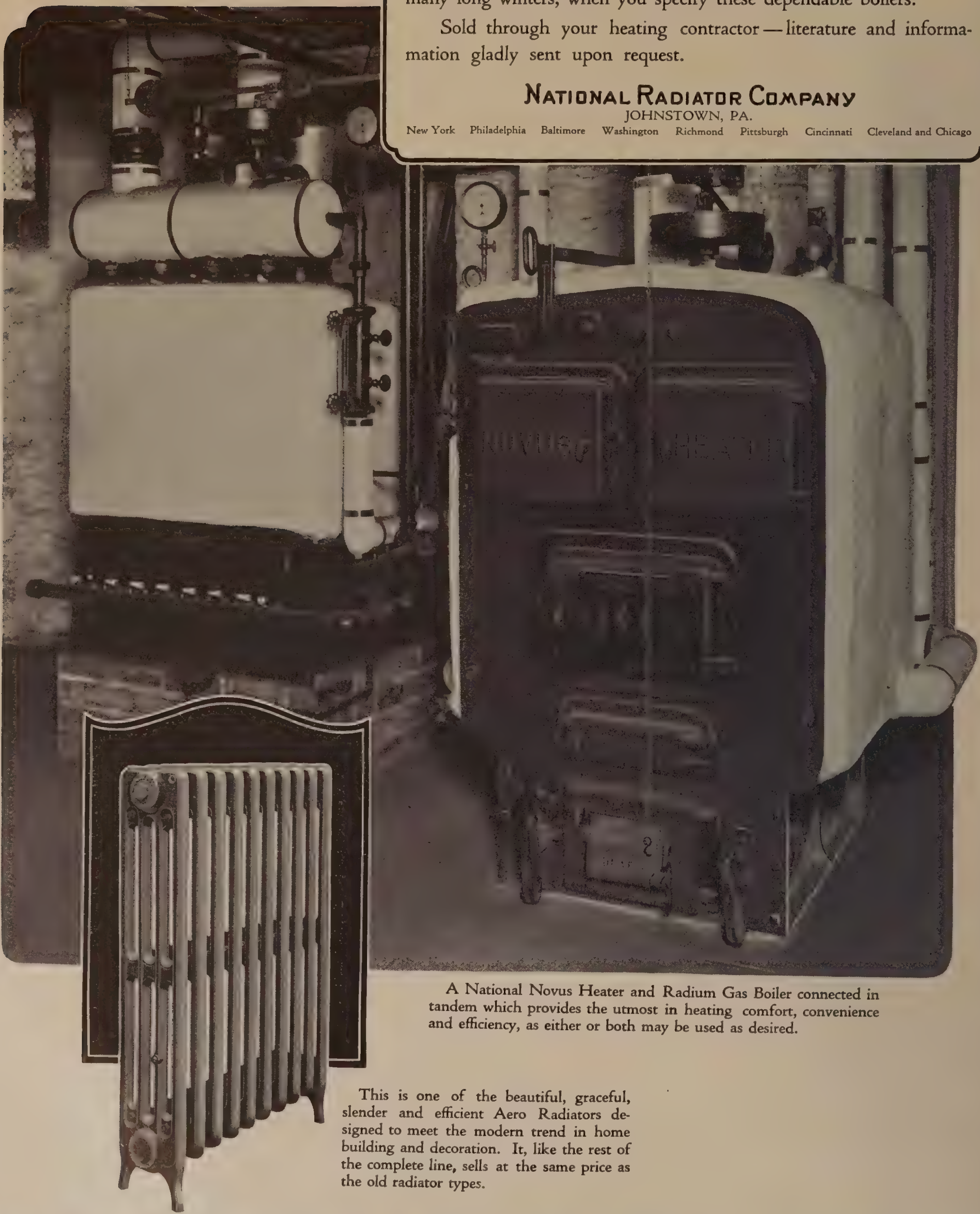

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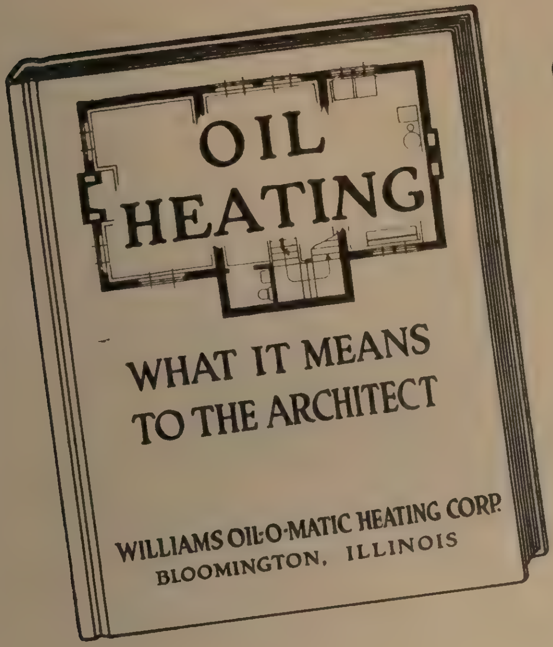
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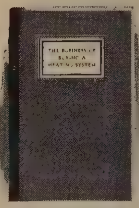

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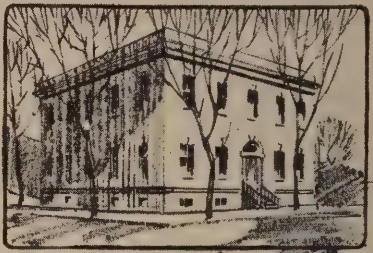

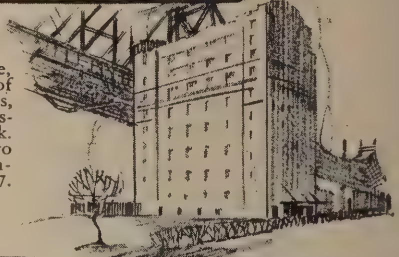

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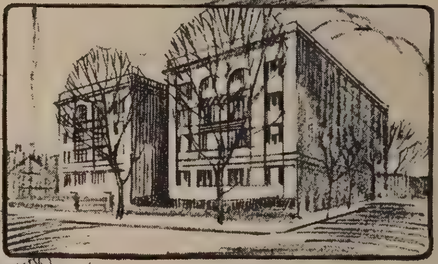
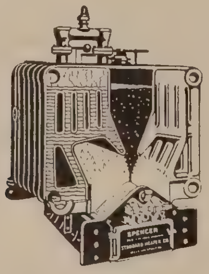


The Spencer-Heated Fairfax Apartments in Germantown, Philadelphia.



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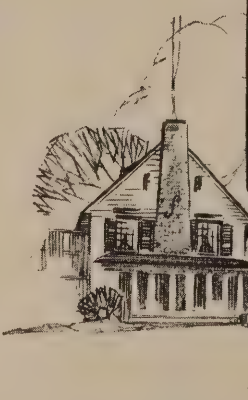

Home of G. L. Knight, Brooklyn, N.Y., heated by a Spencer since 1916.

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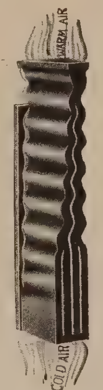

The Zig-Zag Tube

We shall be glad to send you our booklet "Kelsey Achievements" which contains much valuable information.

Our Engineering Department furnishes the architect with plans and specifications if desired.

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(Trade Mark Reg. U. S. Pat. Off.)

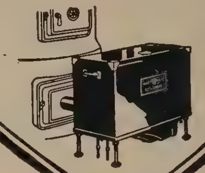
To the Architect from Missouri

who has time to investigate, this is our offer: We'll gladly co-operate with you in any reasonable test or demonstration of the Hart Oil Burner.

To the architect desiring quick action on a home heating plant, we offer convincing evidence of Hart owners—the test of long continued use.

You'll not be obligated either way.

Booklet on Oil Heating gladly sent upon request



HART OIL BURNER

W. B. WILDE CO.
2145 North Adams Street
Peoria, Illinois

VENTADOOR
A VENTILATING PANEL FOR DOORS

VENTADOOR

a Ventilating Panel for Doors

Burglar Proof

The Ventadoor is burglar proof and fire proof. It enhances the appearance of any door of which it is an integral part.

Sound is deadened and vision and light entirely excluded. The initial cost is a saving as compared with the old-fashioned transom.

VAN ZILE VENTILATING CORPORATION
155 EAST 42ND ST.
NEW YORK CITY

Save 20 to 30% Room Space

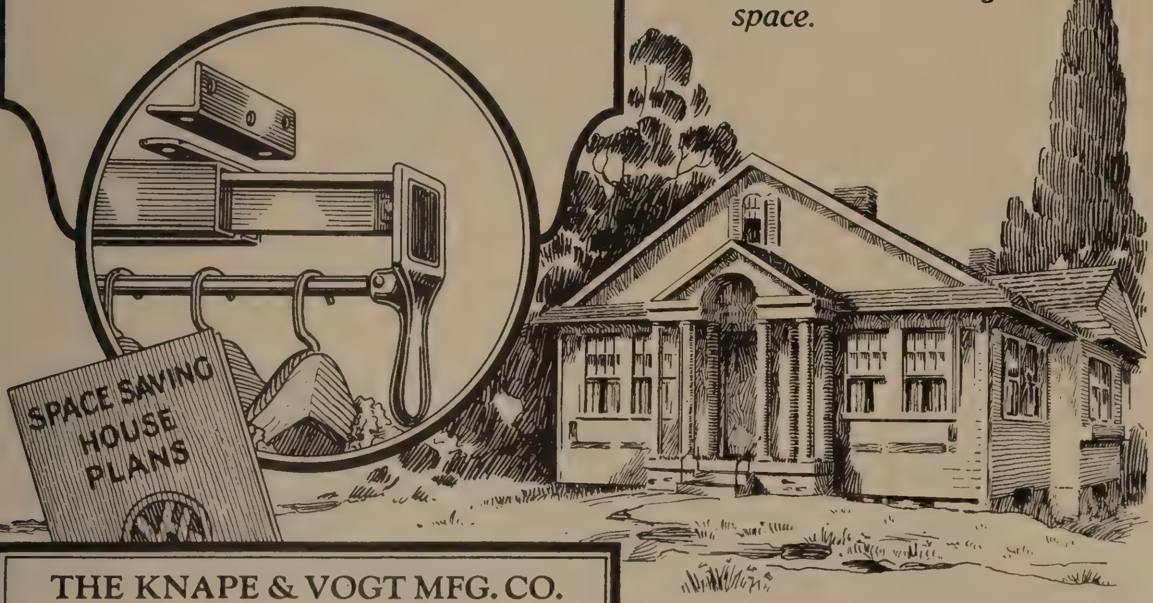
Build small houses that *sell*—houses with *more spacious rooms* and *more convenient, up-to-date clothes closets;* houses that immediately attract housewives—by equipping with Knape & Vogt Clothes Closet Fixtures.

They make possible compact closets which save 20 to 30% room space, and are *a real economy* in building costs.

Ask your nearest hardware dealer about them, or mail the coupon at once for our book of suggestive house plans.

The New K-V Clothes Closet Fixture

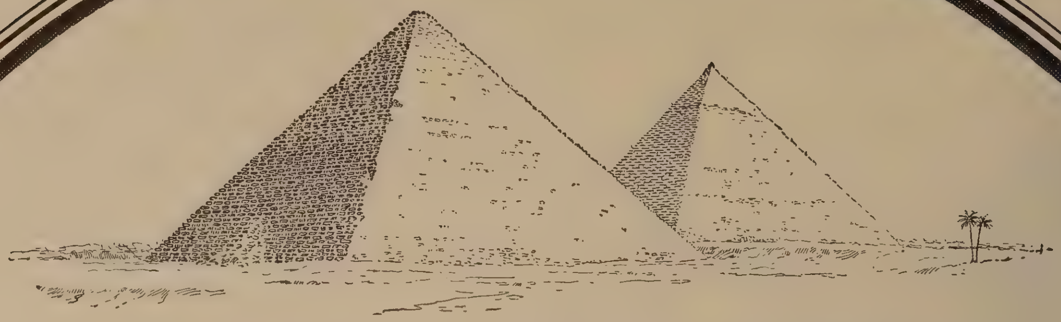
An easy-sliding, roller-bearing fixture of nickeled steel. It comes in various sizes from 12 to 60 inches in length. It will fit any closet and provide the maximum of storage space.



THE KNAPE & VOGT MFG. CO.
BOX 20 GRAND RAPIDS, MICHIGAN
Please send me a copy of "K-V Space-Saving House Plans"—no obligation.
NAME______________________________
STREET____________________________
CITY______________________________

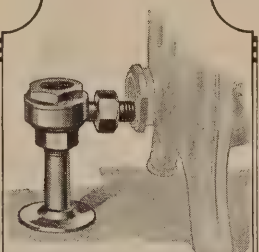
Get your free copy of our illustrated book for contractors, "K-V Space-Saving House Plans." Contains practical suggestions for building more attractive, economical homes. Use the coupon.

KNAPE & VOGT
MANUFACTURING COMPANY
GRAND RAPIDS, MICHIGAN.



DURABILITY

that is based on the three fundamental factors of design, materials and construction

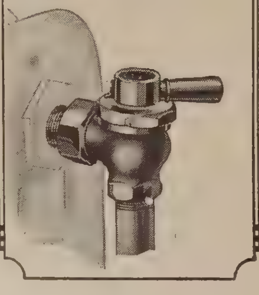


The Dunham Thermostatic Radiator Trap

The silent, efficient watchdog of the coal pile.

The Dunham Packless Radiator Valve

A fitting companion to the Dunham Trap is the Dunham Packless Radiator Valve.



THE durability of any example of man's handiwork is at the mercy of the three fundamentals of design, materials and construction, upon which depends the long life of the finished product. This is as true in a heating system as in the Pyramids of Gizeh.

In the Dunham Low Pressure Steam Heating System durability is insured through properly co-ordinating these factors of design, material and construction into every Dunham Specialty.

Correct engineering insures proper design. Dunham engineering begins in the company's research laboratories, continues at the drafting table, and does not cease to function until the heating system is installed and working with complete satisfaction.

Dunham materials are the very best that science and the markets offer for the particular work they must accomplish. They are selected upon rigid tests for quality, fitness and long life. We know of no finer materials for the specific usages involved than those we employ in making the Dunham Specialties.

Dunham construction, both in the manufacture of the product and in the assembly of these, with other standard parts and fittings, into the heating system, is of the highest type, insuring a heating plant that will deliver the fullest measure of service and satisfaction during many years of usefulness.

C. A. DUNHAM CO.

Dunham Building, 450 East Ohio Street, CHICAGO

Over sixty branch and local sales offices in the United States and Canada bring Dunham Heating Service as close to your office as your telephone. Consult your telephone directory for the address of our office in your city.

The DUNHAM
REG. TRADE MARK
HEATING SERVICE

INTERNATIONAL HEATERS

Steam 98 Per Cent Dry —Without a Header!

Baffle plates in each section of the ECONOMY SMOKELESS BOILER and the high steam dome insure 98 per cent *dry* steam. The water line is always above the open flue surfaces, protecting the boiler from damage and conserving the heat.

No header is required. This feature reduces the cost of the installation and saves head room.

There are plenty of other reasons why THE ECONOMY SMOKELESS BOILER is both economical and efficient.

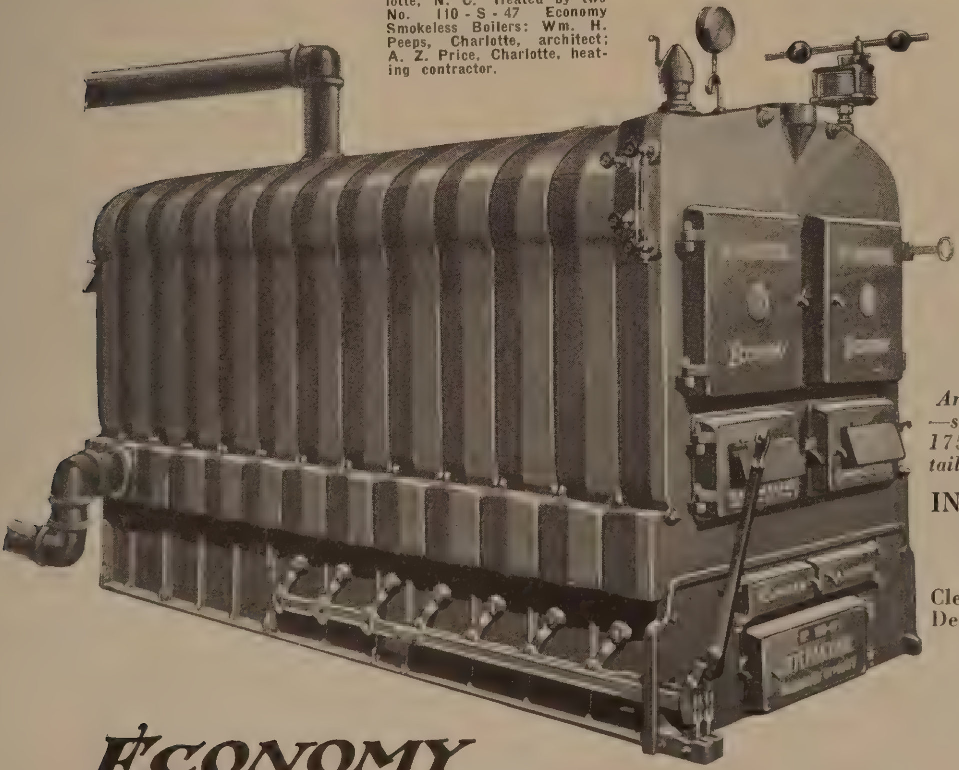
The ratings are *guaranteed*. If you have 4150 square feet of direct radiation load, put in an International Economy Boiler rated at 4150 square feet.

The air control insures proper combustion — conserving fuel and consuming smoke.

All flue surfaces are easily cleaned from the front. There are no unreachable soot pockets to reduce heating efficiency.

The ECONOMY SMOKELESS BOILER develops full capacity for longer than usual periods.

Ivey Department Store, Charlotte, N. C. Heated by two No. 110 - S - 47 Economy Smokeless Boilers: Wm. H. Peeps, Charlotte, architect; A. Z. Price, Charlotte, heating contractor.



Architects—engineers —send for Catalog 1751-F—giving detailed specifications.

INTERNATIONAL HEATER CO.
UTICA, N. Y.

Cleveland Chicago
Detroit Nashua, N. H.
New York City

ECONOMY SMOKELESS BOILERS

Architects that Specify

"GLOBE" VENTILATORS

Are Repaid by Complete and Certain Satisfaction.

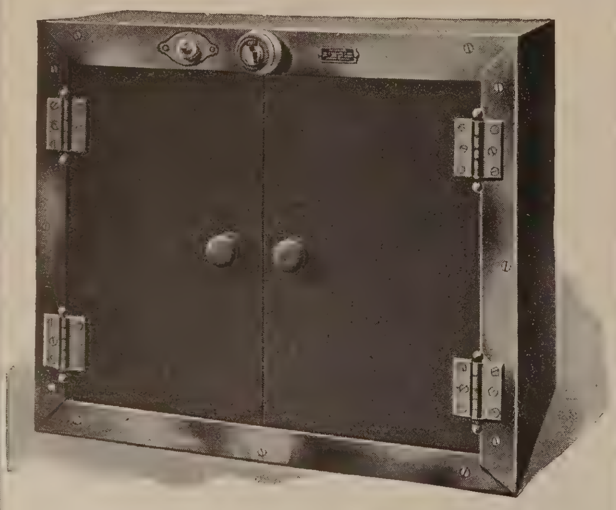
"Globes" automatically provide for fresh air for hundreds of buildings all over the country.

They are practically "ever-lasting" and perform their work under all conditions.

GLOBE VENTILATOR COMPANY

TROY, NEW YORK - - - DEPARTMENT F

PROMETHEUS

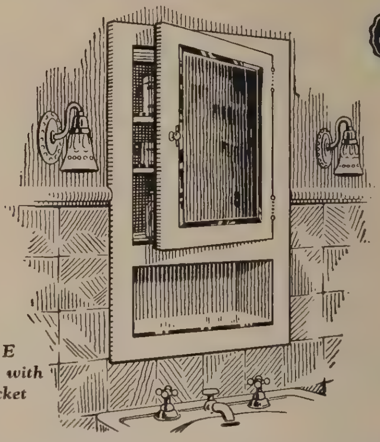


The PROMETHEUS PLATE WARMER is an inexpensive, convenient, and practical part of the kitchen. Such well-known names as Vanderbilt, Rockefeller, Henry Ford, Astor, and Harriman have them installed in their residences.

Write for Complete Data

The Prometheus Electric Corp.
358 West 13th Street New York

HESS CABINETS and MIRRORS
Snow-White Steel



STYLE E to recess with open pocket below.

HESS SNOW-WHITE STEEL MEDICINE CABINETS GROW IN POPULARITY.
The sales for 1925 were 461 per cent of those of 1921. The sales of 1925 were 153 per cent of those of 1924.
This steady gain is due to the great care we use to produce high grade workmanship and finish. We please our customers and they come again and again for more— **Quality Wins.**

Write for catalogue; or See Sweet's Index.

HESS WARMING & VENTILATING CO.
Makers of Hess Welded Steel Furnaces.
1216 S. Western Avenue, Chicago

They thank the architect

For those little extra touches that make a house different, artistic, and up to the minute, people thank the architect—and for those things that add to the comfort of the home, too.

That is why architects are equipping so many new houses with IDEAL Gas Boilers, made by American Radiator Company, and why so many old houses replace unsatisfactory heating with IDEAL Gas Boilers.

The compact, attractive looking, aluminum jacketed IDEAL Gas Boiler not only eliminates coal and ashes with the attendant dirt and labor of stoking and carrying out, but also adds an extra room to the house—a clean cellar available for a variety of uses.

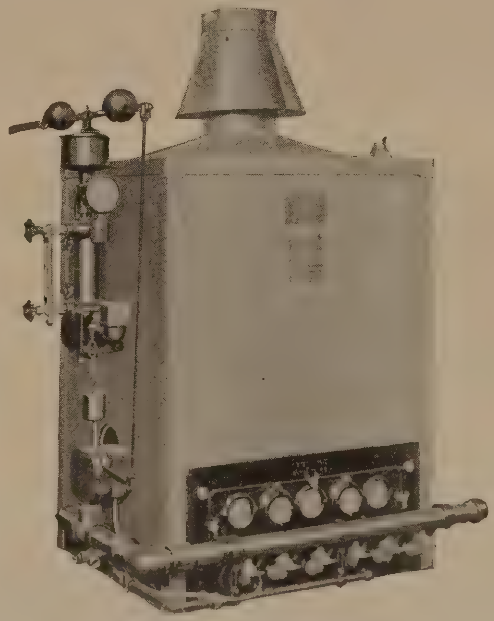
Gas is coming into its own as the ideal method of warming homes and other buildings, large and small.

Absolute cleanliness, carefree comfort, super convenience (IDEAL Gas Boilers are automatically equipped with special safety equipment and require practically no attention), a flexibility and efficiency unequalled in any other type of heating system—is it any wonder that gas house-heating is winning its way on its own merits? And the establishment of "heating rates" by many gas companies makes the cost surprisingly low.

Don't you owe it to yourself to investigate gas heating from every angle that may affect your business?

IDEAL Gas Boilers burn natural or artificial gas and are made for steam, hot water or vapor and vacuum systems. They range in capacity from 225 to 8000 feet and are tested and rated according to the specifications of the American Gas Association.

Your local gas company, or we ourselves, will gladly supply you with full data and all information about IDEAL Gas Boilers. See them or write to us.



Type I-G Gas Boiler

IDEAL GAS BOILERS

Product of AMERICAN RADIATOR COMPANY

AMERICAN GAS PRODUCTS CORPORATION
376 Lafayette Street DISTRIBUTORS New York City

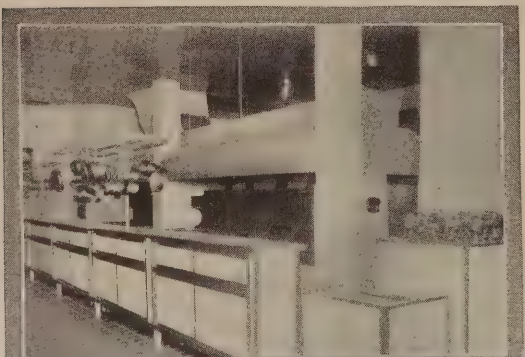
Good Reasons Why Albert America's Largest Kitchen

Main Kitchen
DRAKE HOTEL
Chicago
Marshall & Fox,
Architects

ALBERT PICK & Company lead the world as manufacturers of kitchen equipment for Hotels, Restaurants, Clubs, Institutions and other public service establishments. We feel that the reason we have attained this leadership has been the lasting satisfaction of thousands of users of PIX Kitchen Equipment throughout the country. It has been our ideal to build equipment with quality and service rather than mere price as the guiding consideration—to "Build for Permanence" before all else. The success of this policy is shown by the continued growth of our business year after year.

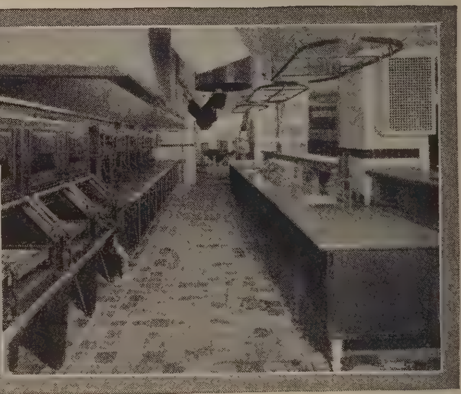
Albert Pick, Barth & Company, Inc., Operating

ALBERT PICK & COMPANY
208-224 West Randolph St., Chicago
and L. Barth & Company, Inc., New York



(Above)
Main Kitchen
HOTEL
ROOSEVELT
New Orleans, La.
Favrot & Livaudais,
Ltd.
Architects
The Roosevelt Hotel was completely furnished and equipped by Albert Pick & Company

(Below)
Main Kitchen
ARLINGTON
HOTEL
Hot Springs, Ark.
Mann & Stern
Architects



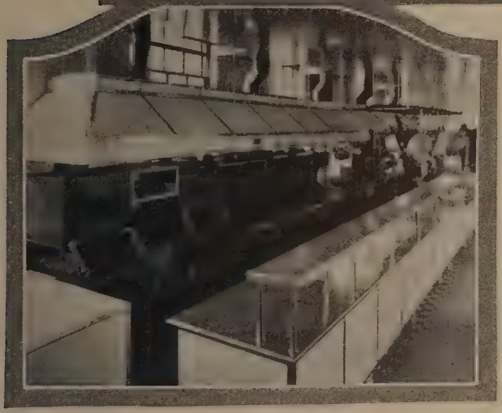
Main Kitchen
HOTEL BOOK-CADILLAC
Detroit, Mich.
Louis Kamper
Architect
The Hotel Book-Cadillac was completely furnished and equipped by Albert Pick & Company

Pick & Company Are Equipment Manufacturers

(Below)
Kitchen of the
FURNITURE CLUB
(Furniture Mart)
Chicago, Ill.

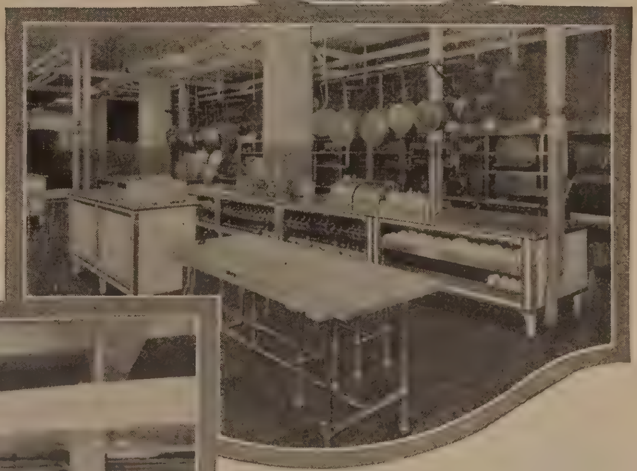
(Left)
Electric Kitchen
ILLINOIS
STEEL
COMPANY
Employees'
Cafeteria
Chicago, Ill.

(Right)
Electric
Kitchen
COM-
MUNITY
HOUSE
Gary, Ind.



(Left)
Main Kitchen
MAYO
HOTEL
Tulsa, Okla.
George Winkler
Architect

(Right)
Main Kitchen
of
MAILLARD'S
Famous
Restaurant
Chicago, Ill.
Buchman & Kahn
Architects

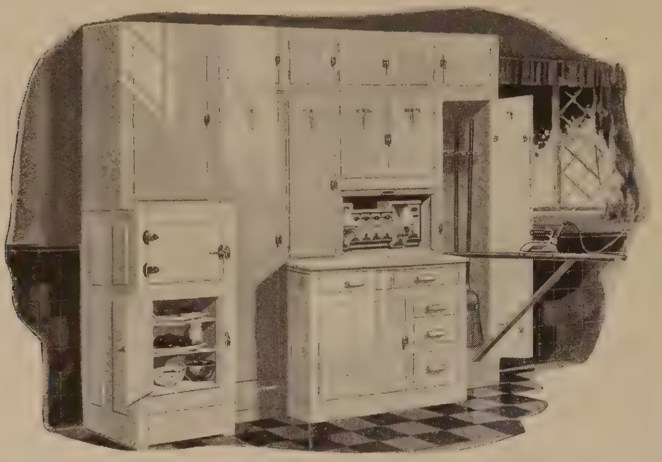


(Left)
Main Kitchen
MAYFLOWER HOTEL
Washington, D. C.
Robert F. Beresford
and Warren & Wetmore
Associated Architects
The Mayflower Hotel was completely furnished and equipped by Albert Pick & Company

BUILT FOR PERMANENCE

KITCHEN MAID

STANDARD KITCHEN UNITS



Banished forever . . . . the pantry!

Now you can give every kitchen you plan the highest type of efficiency, the most modern convenience and beauty—and eliminate entirely any need for a pantry. Built by specialists in equipment, scientific in every detail, Kitchen Maid Units bring complete storage space and working equipment right into the kitchen—where the housewife does her work.

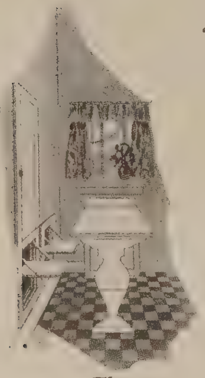
These units include everything from dish and broom closets to folding iron boards, from kitchen cabinets and linen cupboards to Pulmanooks and refrigerators. Choose the units according to the needs of the particular kitchen you plan—group them or separate them—build them in or set them against the wall. Each unit is complete in itself—yet any combination you arrange will be thoroughly finished in design.

Despite their unusual beauty and efficiency, Kitchen Maid Units cost no more installed than old-fashioned cupboards. Mail coupon for full information including dimensional drawings and prices.

WASMUTH-ENDICOTT COMPANY
1805 Snowden Street, Andrews, Indiana

"Let the Kitchen Maid Be Your Kitchen Aid"

KITCHEN MAID
STANDARD UNIT SYSTEMS



The Pulmanook

Consists of table and two or four chairs. Folds easily and quickly into wall

WASMUTH-ENDICOTT CO.
1805 Snowden St. Andrews, Ind.
If in Canada, Address Branch Office, Waterloo, Ont.
Please send catalogue and full information about Kitchen Maid Units to:

Name..........

Address..........

City..........

State..........

NORTHEAST HIGH SCHOOL
Reading, Pa.

Northeast High School—Reading, Pa.

Drehr, Churchman, Paul & Ford, Architects, Reading
(Drehr & Churchman)

ANOTHER NOTABLE INSTALLATION BY DOUGHERTY

THE ENTIRE COOKING APPARATUS, and equipment, for the Kitchen and Cafeteria of the magnificent Northeast High School, Reading, was furnished and installed by us. The reliable performance of DOUGHERTY'S

"SUPERIOR" Cooking Apparatus

for the past 70 years has made it a favorite for school installations. May we serve you?

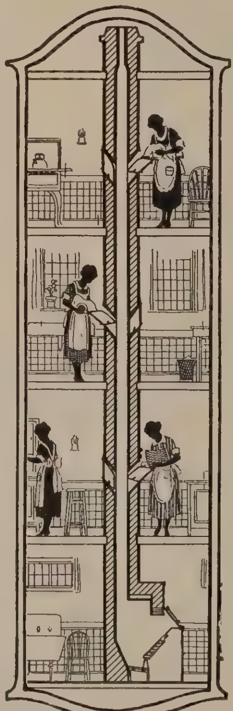
A Full Line of China, Glass and Silverware

Manufacturers Since 1852

W. F. DOUGHERTY & SONS, INC.

1009 Arch Street - Philadelphia

ARCHITECTS!



Let us help You solve your problems on Incinerators.

We maintain a highly competent engineering staff for preliminary service to architects. You are invited to consult us on incineration problems. No obligation.

GODER

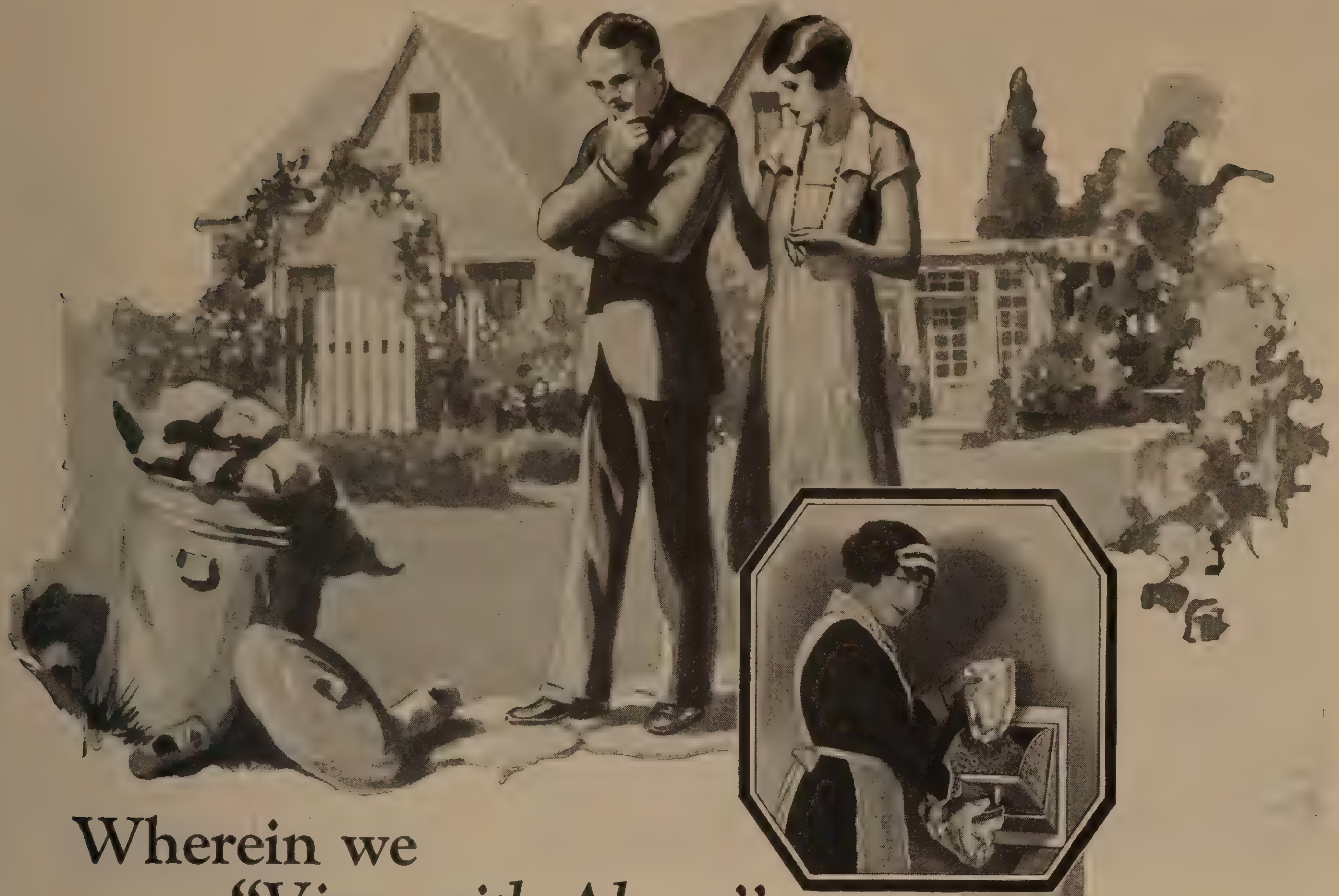
Waste Disposal Systems

—are operating successfully in practically every kind of hotel, hospital, apartment building, home, department store, factory, industrial plant, etc.

A style and size for every kind of building. Patented features. *Costs the least* in every way.

Folder justs fits your File 35-J-41
Sent without any obligation.

GODER INCINERATOR CORP.
319 N. Michigan CHICAGO



Wherein we "View with Alarm"

IT takes a deal of landscaping, and many a bank of flowers, to offset the messy, untidy, malodorous garbage can! Not to mention the drudgery of those never-ending daily trips to dispose of the household refuse! And almost always, the distressed owner's plaint is, "If I had only known in time that the Kernerator must be built in, or passed up forever!"

Those beautiful homes you plan and build deserve something better than the antiquated method of garbage and waste disposal pictured above. They deserve the perpetual convenience of the time-tried Kernerator, with its handy hopper door right there in the kitchen, waiting to receive all garbage, sweepings, tin cans, crockery, papers, trash of every description.

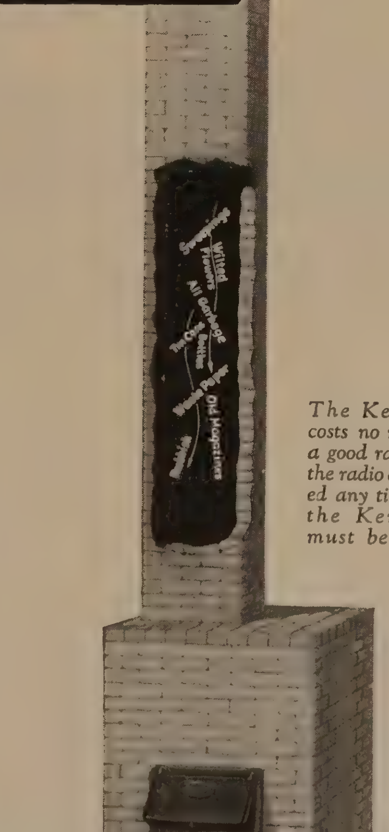
The Kernerator costs nothing to operate (the waste itself being fuel for its own destruction). It requires but a few minutes' attention weekly. It handles *all* waste—not only garbage, but tin cans, crockery, papers, sweepings and the like. Metallic objects are flame-sterilized for removal with the ashes. It is the orignal, flue-fed incinerator, built by the pioneers of the industry.

See Sweet's (1925) pages 2800-01. For additional information phone your local Kernerator representative (25 of whom are listed in the telephone directories of that number of principal cities) or write—

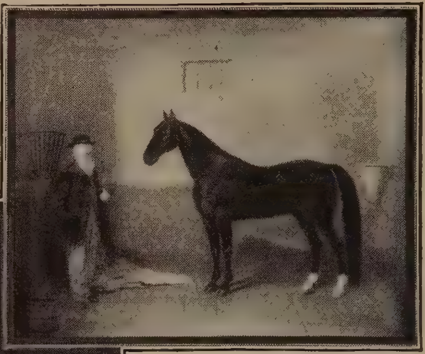
KERNER INCINERATOR CO., 715 East Water St., MILWAUKEE, WIS.

KERNERATOR
Built-in-the-Chimney

Garbage and Waste Disposal without Leaving the Kitchen



The Kernerator costs no more than a good radio—and the radio can be added any time, while the Kernerator must be built in.



Hambletonian

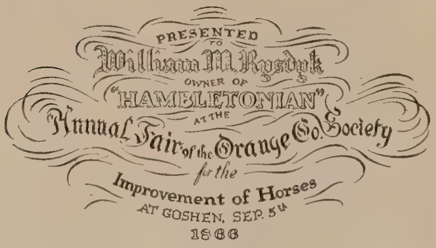
Goshen 1866

THE great Hambletonian (2.04)—few of us knew him, all remember him. No greater sire ever lived.

Of the trophies of his innumerable achievements the greatest by far is that wonderful silver service presented to his owner W. H. Rysdyk at Goshen, 1866.

It was not a prize for speed of foot, for greatness of beauty, nor for beauty of form. It was a token of recognition of this great horse's possession of all these attributes, plus the great gift of passing them on almost undiminished to his descendants for the benefit of horsedom and mankind.

And just as for nearly 60 years the sterling qualities of this great horse have come down to us undiminished by time, so has the beautiful pure silver service, one of Tiffany & Co.'s first great works of art stood the years, untarnished, its beauty undimmed.



PRESENTED
TO
William M. Rysdyk
OWNER OF
"HAMBLETONIAN"
AT THE
Annual Fair of the Orange Co. Society
for the
Improvement of Horses
AT GOSHEN, SEP. 5th
1866

Silverlite 1924

THE same pure silver that went into the beautiful Hambletonian service —the same pure metal that the great silversmiths of *all* time work with is the silver that makes the reflecting surface of Silverlite.

This surface is not a plating of silver.

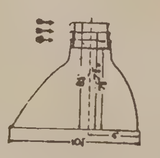
For strength and economy the pure silver is electrolytically combined with pure copper by a process perfected by us.

The pure silver of the reflecting surface and the pure copper of the backing are *one* metal with two faces. It will not peel, crack nor can the metals be separated except in a chemical laboratory.

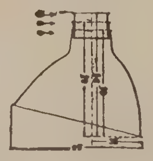
Silverlite reflectors will not break. They are light in weight. And because of the absence of all glass, light absorption is reduced to a minimum.

Write us for complete details of this wonderful line of reflectors and of the wonderful new two-face metal Silverlite.

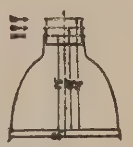
Silverlite all metal pure silver reflectors now come in the following sizes. Others in preparation.



E-2—For use in high narrow windows.



E-4—For use in low deep windows.



E-5—For special purposes.

I. P. FRINK Inc.

24th Street and 10th Avenue, New York

Chicago, Ill.
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Seattle, Wash.
Buffalo, N. Y.
Birmingham, Ala.
Philadelphia, Pa.
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Los Angeles, Cal.
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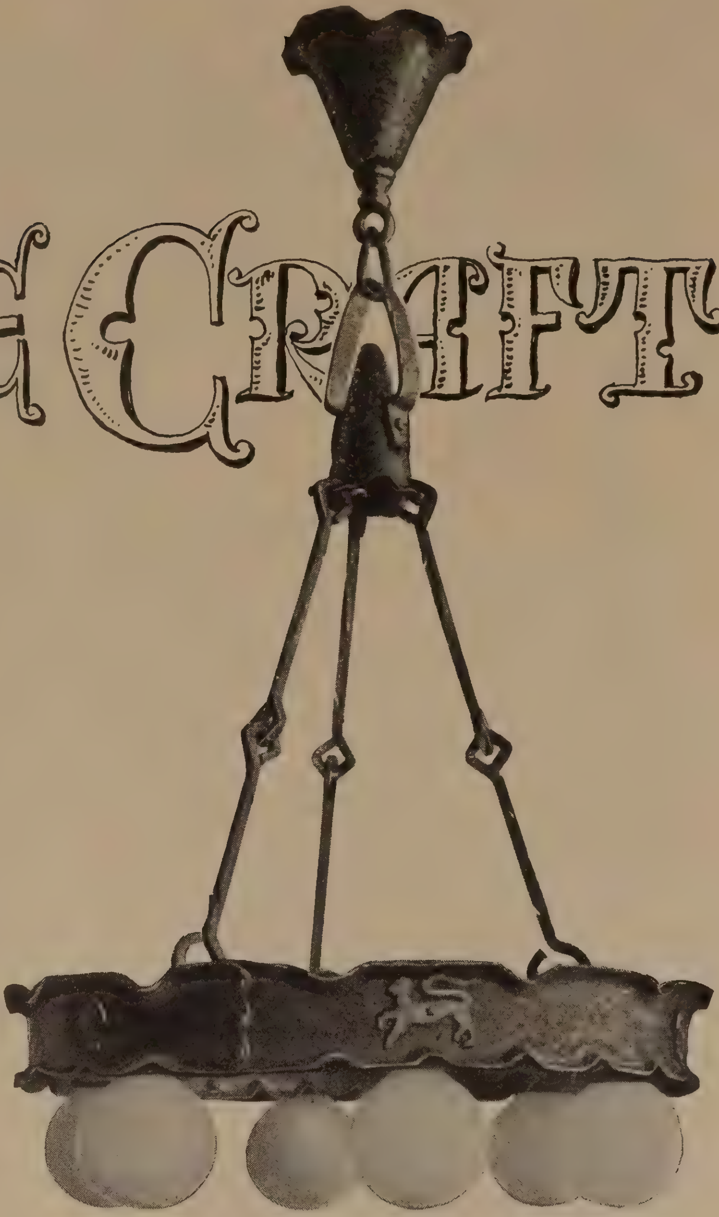
CANADA—Associated with The Robert Mitchell Co., Ltd., 64 Belair Ave., Montreal
ENGLAND—30-35 Drury Lane, London, W.C.2

FORGE CRAFT



The simple elegance, originality and moderate prices of the new line of Guth Forge-Craft Luminaires have placed them in widespread favor among architects and discriminating builders.

The trained eye instantly detects the touch of master-craftsmanship, made possible, in part, by twenty-three years of lighting equipment manufacture. Your request for special designs for any type of installation will receive prompt attention, without obligation and without charge.

Catalog 16 reproduces forty-seven of the many designs of Guth Forge-Craft Luminaires and Wall Brackets. Hundreds of other illuminators in bronze, brass, copper and iron are shown in Catalog 15, bound or loose leaf, with A.I.A folder. Copies sent on request.

Every operation in the manufacture of Guth lighting fixtures is handled in our own plant, from the raw material to the finished product. No job is too large or too difficult for the *Largest Manufacturers of Lighting Fixtures.*

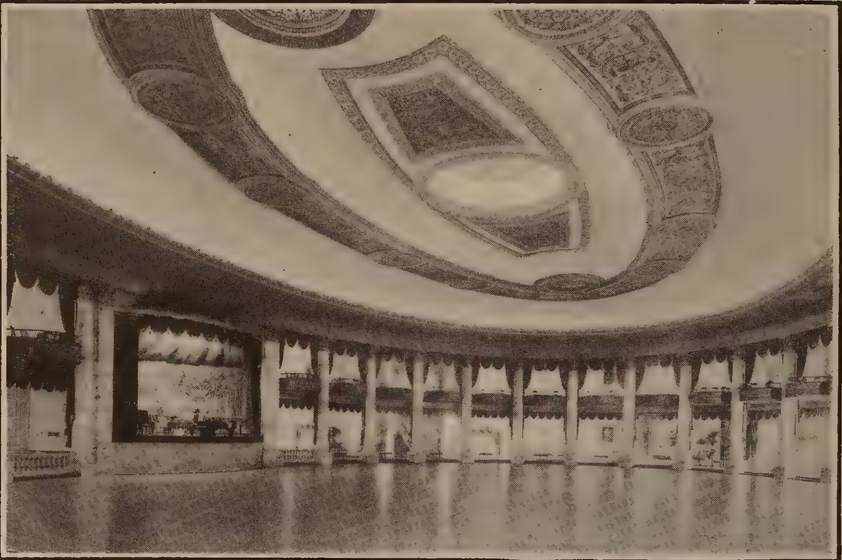
The EDWIN F. GUTH COMPANY

DESIGNERS ENGINEERS MANUFACTURERS

Lighting Equipment

ST. LOUIS, U. S. A.

J 5340



LIGHT As An Architectural Factor

Shadows will so easily destroy a desired effect in line or design — improper high-lighting can so completely do what the architect does *not* want done—that illumination is a problem to be dealt with seriously.

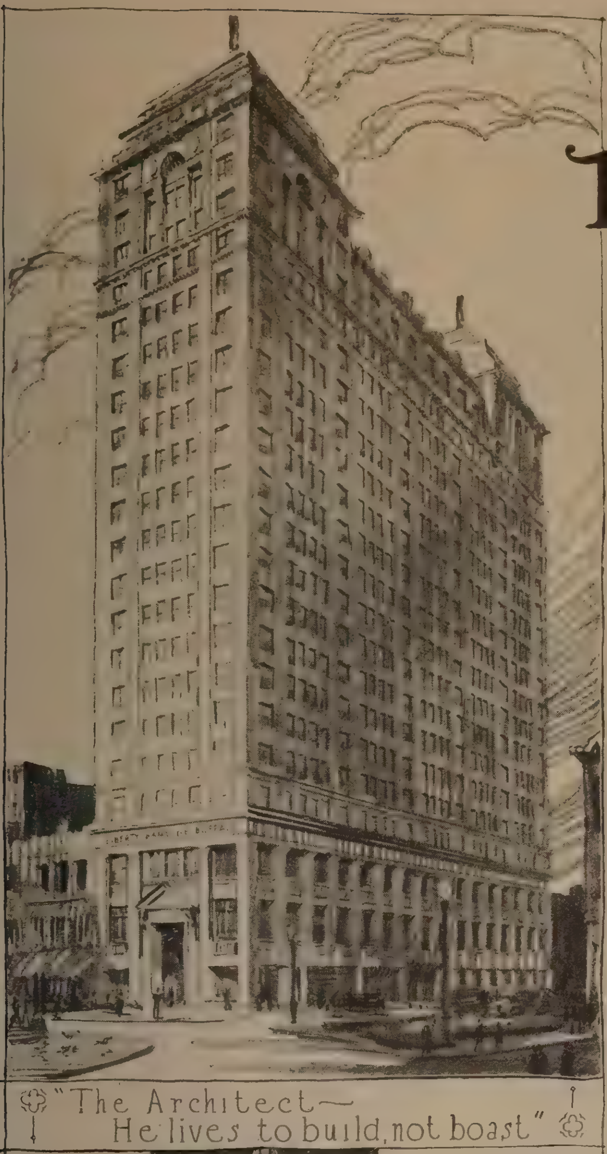
The architect who studies light *from the viewpoint of architecture* will find our engineering service very helpful.

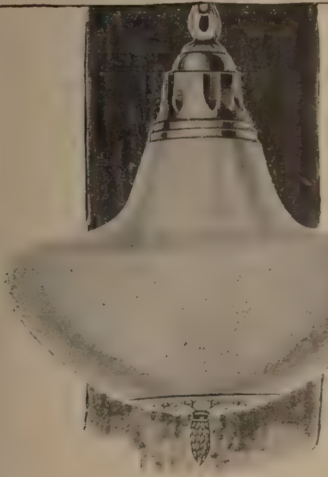
In the magnificent Trianon Ballroom, Chicago, the architects found that "Pittsburgh" Reflectors gave the lighting effects demanded by the architecture of this great room.

"Pittsburgh" brochures on Cove Lighting (A.I.A. File No. 31F17) and on Show Window Lighting (A.I.A. File No. 31F14) are probably in your files. If not, they will be sent on request.

PITTSBURGH REFLECTOR COMPANY
411 Bowman Bldg., 3rd and Ross Sts., Pittsburgh, Pa.
Representatives in 26 Leading Cities

"PITTSBURGH" COVE LIGHTING


"The Architect—
He lives to build, not boast"



Liberty Bank Building, Buffalo, N. Y.—lighted with Westinghouse Sol-Lux *Luminaires, equipped with* Monax Glass *(below).*

The Shadow Chasers

Unless a correct lighting system has been specified for the office building, that building will not really be complete. Lighting equipment, to be correct, should provide adequate light that is endurable—light free from sharp Shadow and harsh Glare.

Bright, cheerful, well-diffused light, setting off interiors to best advantage, is of direct monetary value to building owner and tenant alike. Where competition is keen and renting of floor space hinges on special service, an up-to-date, efficient lighting system usually outweighs other features under consideration. It reflects the efficient spirit of the times, welcoming the up-and-doing business man to smart looking corridors and friendly offices.

Specify Monax Globes and you specify good light. They spray an abundance of soft, shadowless light *uniformly* in all directions, yet absorb scarcely any of it. Easy to clean, they are a continuous source of recognized lighting efficiency.

Our Illuminating Engineering Department will gladly help you solve any lighting problem you may have on the boards. This cooperation is just one of the features of Monax *service and is extended without obligation*

Macbeth-Evans Glass Company
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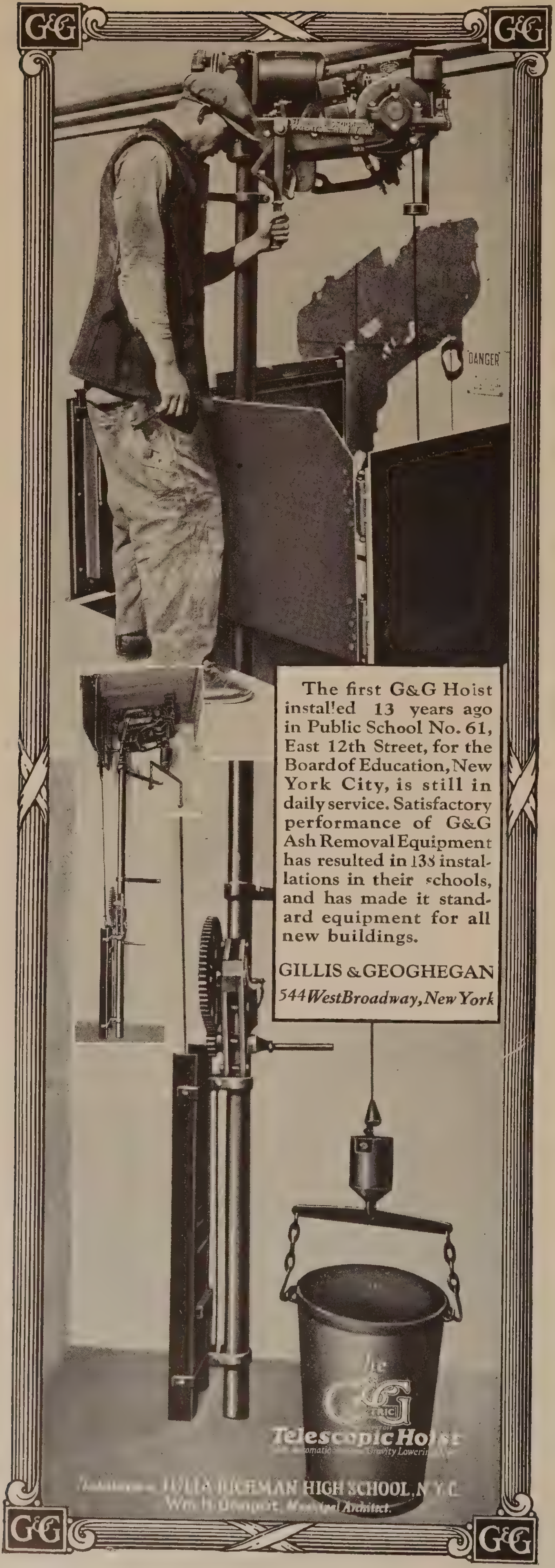
DEPARTMENT J
CHARLEROI, PENNSYLVANIA

MONAX GLOBES

The Shadow Chasers
for Office Building Lighting



The first G&G Hoist installed 13 years ago in Public School No. 61, East 12th Street, for the Board of Education, New York City, is still in daily service. Satisfactory performance of G&G Ash Removal Equipment has resulted in 138 installations in their schools, and has made it standard equipment for all new buildings.

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Engineered Lighting Service for the Architect

A complete engineering service is at the disposal of any registered architect who wishes his lighting problems handled by illuminating specialists. This service is complete, including engineering report, plans, and sketches of fixtures. No obligation is incurred by making use of this service.

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FLAT FINISH

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Will not flake or peel.

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New York City
HELMLE & CORBETT,
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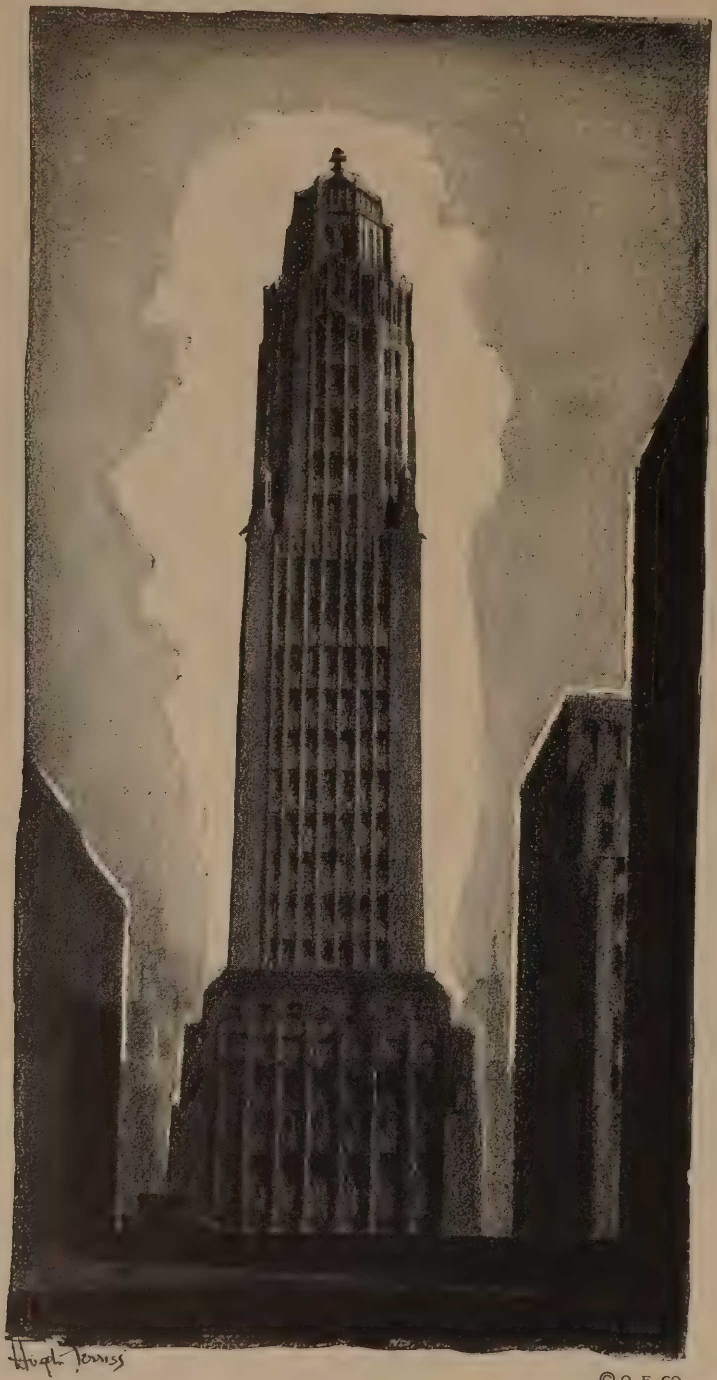
Drawn by Hugh Ferriss



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"A Noble Profile"

FAR more strongly than most churches, this great tower of commerce bespeaks the real spirit of Gothic architecture—aspiring, rugged, virile—an inspiration for the thinking, creating architect of today. Contradicting the antiquarian, this great tower declares that the spirit of Gothic architecture is a living, organic thing, adaptable to modern problems of accommodation and engineering, and endowed with a future as magnificent as its past.

Certainly modern invention—modern engineering skill and organization, will prove more than equal to the demands of the architecture of the future.

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Automatic temperature and humidity regulation — in homes, schools, hospitals, business, civic and institutional buildings — is perfectly successful where it is Johnson System Of Temperature And Humidity Control that is installed: because The Johnson is the all metal system; and because it is entirely of Johnson design and manufacture, with every installation made directly by Johnson personnel only.

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AUTOMATIC TEMPERATURE REGULATION SINCE 1885.
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Another Outstanding Example of How Meyer Steelforms Are Proving Their Efficiency and Economy

600,000 square feet of Meyer Removable Steelforms were used in the above pictured warehouse of the Hibbard Spencer, Bartlett Company at Chicago.

The saving in concrete, steel, formwork, time and labor effected by the use of Meyer Steelforms has won the recognition of architects, contractors and engineers.

Meyer Removable Steelforms are handled on a rental basis only and are leased to contractors or owners for use on specific work. Ordinarily the labor of installation and removal of the forms by our skilled workmen is included with the rental charge.

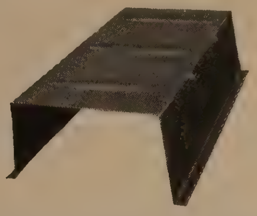
The simple open wood centering used beneath Meyer Steelform construction, the fact that both centering and forms may be removed and reused from one floor to the next and the low rental charges made on the forms themselves are the economies that place "Meyer Steelform Construction" on the specification sheet of the average reinforced concrete constructed building.

1926 Handbook Sent on Request

Our new 60-page "Handbook of Fire Proof Construction" is now ready for you. This improved edition contains tables, charts, specifications and other information of real value and help to architects and contractors. Send for your copy today. Address our OMAHA OFFICE, DEPARTMENT 35.

MEYER STEELFORMS

are made of 16-gauge steel and have depressed ribs in the top surface, thus securing the necessary rigidity to withstand the heavy trucking loads and weights which occur during construction.



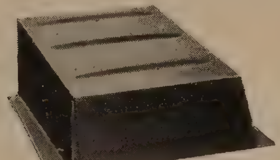
Accurate execution of the structural design is always obtained and the removal of the forms from floor to floor makes possible the inspection of the concrete work.

Better Metal Lath Work

is obtained by application after the concrete has been poured and the forms have been removed instead of before, such as is done with the use of the expensive permanent metal tile construction.

The lowor flanges are provided with nail holes so that the Steelforms can be accurately and firmly placed in position on the centering.

Small openings are placed in the center of each steel form to permit the accurate placing of ceiling hangers.



Meyer Endforms are of three types, straight, single tapered and double tapered. They are all used to close the rows of intermediate steelforms and are an economical feature obtained only through the use of Meyer Steelform Construction.

Ceco Reinforcing Bars are the most efficient type. They are rolled only from new billet steel and are tested and approved by the Robert W. Hunt Company.

Our sales organization and engineering department are technically trained and each member is always ready to assist you with layouts and estimates for the reinforced concrete portion of building work.

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Polishing Costs Eliminated

when you specify this Beautiful Finish

IN hotels, hospitals and other large building projects the cost of polishing plumbing fixtures, hardware and other bright work is an important item of overhead. Add to this the cost of replating or replacement when the brass begins to show through.

By specifying Crodon as a finish for these metal products you virtually eliminate such cost items for your clients.

For Crodon is so resistant to all sources of corrosion and discoloration that a mere wiping to remove grease or other foreign matter leaves its original lustre unchanged; and so hard that it remains unworn after years of service. It is guaranteed for 20 years.

Yet the additional cost of Crodon is in most cases less than one year's polishing cost.

Any Crodon-plated fixture is guaranteed to retain its high lustre and color for twenty years from the time of its installation without the necessity of using abrasives or any polishing compounds.

You may obtain a Crodon finish with any fixtures of good quality. If Crodon-plated items are not part of the manufacturer's regular line, the fixtures specified may be plated in one of our plants on quotations supplied to the manufacturer or the plumbing contractor.

Upon request our Architects' Service Department will give any desired details or estimate the probable cost for any building project. Write the Chemical Treatment Co., Inc., 26 Broadway, New York.

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The Chrome C T *Alloy Plate*

Applied Only to Quality Products

In the Home of The Hon. James J. Walker

MAYOR OF NEW YORK

In this bathroom the medicine cabinet and bathroom accessories with Crodon finish were furnished by J. A. Hoegger, Inc. Architect, Leroy P. Ward

CRODON

The Chrome Alloy Plate

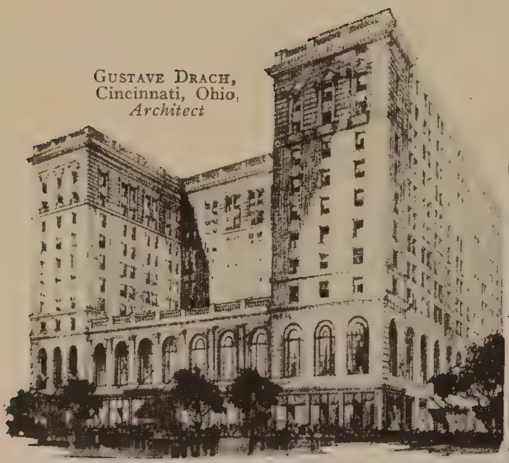
Applied Only to

Quality Products

No. 20 of a series of advertisements featuring prominent laundry installations

An "ALL-AMERICAN" laundry

at THE NEIL HOUSE, *Columbus, Ohio*



GUSTAVE DRACH,
Cincinnati, Ohio,
Architect

This view of the washroom at the laundry of The Neil House shows a battery of "American" Monel Metal Cascade Washers. In the background are several "American" Humatic Extractors.

All of the flat work for The Neil House is ironed on these "American" Flat Work Ironers.

Guests' apparel, service coats, etc., are ironed on the "American" Prim Presses in the laundry of The Neil House. In the center is a Thermo-Vento Drying Tumbler, and in the background, the "American" Curtain Dryer.

The pictures tell why The Neil House, Columbus, Ohio, is known for its immaculate table linens, snowy bed linens, and the perfect laundering of guests' personal apparel.

For The Neil House operates its own "All-American" laundry, designed and installed by engineers of The American Laundry Machinery Company, who have gained wide experience in installing many of this country's foremost hotel, commercial and institutional laundries. These engineers will gladly advise you on any questions you may have pertaining to modern laundry practice. Write—this service is offered you without any obligation.

The American Laundry Machinery Company

Norwood Station, Cincinnati, Ohio

THE CANADIAN LAUNDRY MACHINERY CO., LTD.
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INSTITUTIONS

CONNECTICUT REFORMATORY, *for instance*

Dining Room of Connecticut Reformatory, Cheshire, Conn. showing 35 tables with Monel Metal tops. Above: Exterior view of Connecticut Reformatory.

Use Monel Metal to insure Permanent Cleanliness

THE Connecticut Reformatory found it a simple matter to secure the benefits of permanently clean Monel Metal table tops for its dining room. With its own labor it fitted the silvery sheets of metal to its thirty-five dining tables.

The result was so pleasing to the Reformatory that Mr. George C. Erskine, the Superintendent, wrote:

> "We are using your Monel Metal as table tops for thirty-five tables in our dining room. These tables have been in use for about six months and the tops have proven extremely satisfactory, especially as regards sanitation. We also consider them quite attractive."

Monel Metal's cleanability combined with its rust-immunity, corrosion-resistance and steel-like strength make it the ideal material for food service, clinical and laundry equipment. Architects and builders are continually finding new economies resulting from its use.

May we send you illustrated literature that will suggest the many places that you should specify Monel Metal for your clients' protection? Drop us a line today.

One of 35 dining room tables covered with Monel Metal by The Connecticut Reformatory, Cheshire, Conn.

ASK FOR "LIST B" OF MONEL METAL & NICKEL LITERATURE

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INCo

MOnel metal

A Venetian Blind Ad
written by
The Federal Reserve Bank
Richmond, Virginia

"THE conditions to be met were rather complex; in some cases windows open on the inside, in other cases they open on the outside, and in still other cases they are pivoted in the center and swing both outward and inward. Window curtains and shades were entirely impracticable, and awnings would have been both disfiguring and would have shut out the air to a great extent.

Therefore, we determined that Venetian blinds would meet the requirements. By changing the angle of the slats, very little light is lost, the light being diffused at any angle, and at the same time the air is admitted. The blinds do not detract from the appearance of the building at all in our opinion."

Yours very truly, GEO. J. SEAY,
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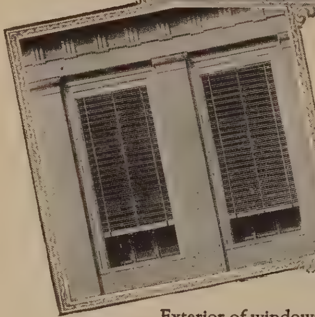
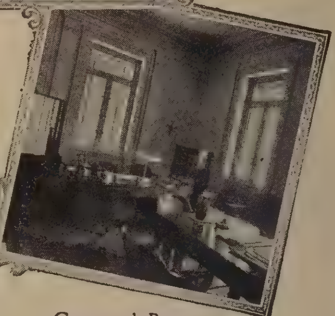
Wilson

Directors' Room



Exterior of windows



Governor's Room

1876—FIFTY YEARS IN BUSINESS—1926

Established 1876
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DOORS - PARTITIONS - BLINDS
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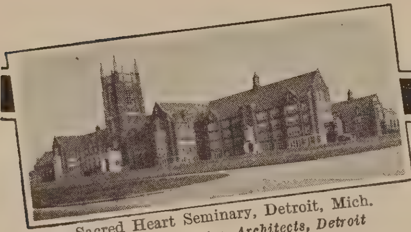
THE J.G.WILSON CORPORATION
NEW YORK CITY



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Donaldson & Meier, Architects, Detroit

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If you asked us for direct proof of the practicability and economy of the Bull Dog method of anchoring wood floors to concrete, we could refer you to some of the finest buildings in America. Office buildings, schools, apartments, hotels—models of architectural genius and representing an investment of more than a billion dollars—have been built better and more economically during the past few years with Bull Dog Floor Clips.

Have you a copy of "Six Quick Steps"? It shows exactly how much you save by using the Bull Dog method of floor anchorage. Ask for it and for samples of Bull Dog Floor Clips.

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WINTERSET, IOWA
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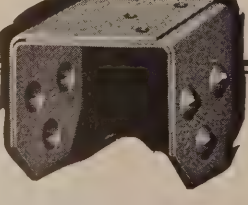
15 Convenient Distributing Points

BULL DOG
Floor Clips



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THE ORIGINAL HOLLAND ENAMEL PAINT

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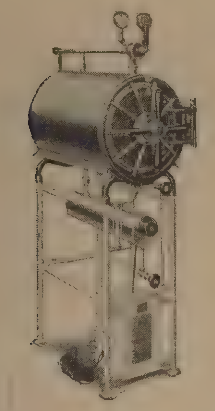
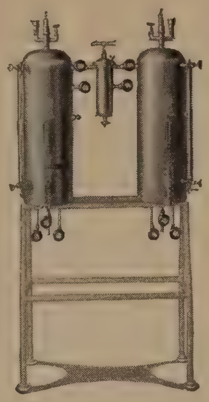
THE GLIDDEN COMPANY
National Headquarters—Cleveland

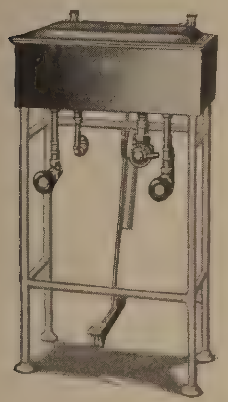
Visualize a Sterilizing Room Free From Vapor and Hissing Steam

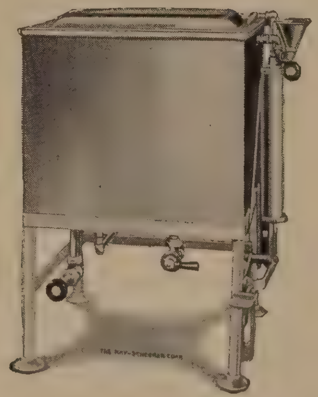
Kny-Scheerer Dressing and Water Sterilizers with automatic pressure control, for either steam, gas or electric, are positive and dependable in operation. With detectors, every degree of temperature is registered and the minutes in operation recorded.





Instrument and utensil sterilizers boil without vapor issuing from underneath covers. The new Kny-Scheerer Ejector does this trick without fuss, gurgle or wheeze.





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—include the following:

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1. 1½" pipe bushing for connection to water service pipe. This is for flushing the chute and keeping it sanitary.
2. 3" coupling for ventilator pipe.
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4. Special "Pfaudlerite" Gasket for each joint.
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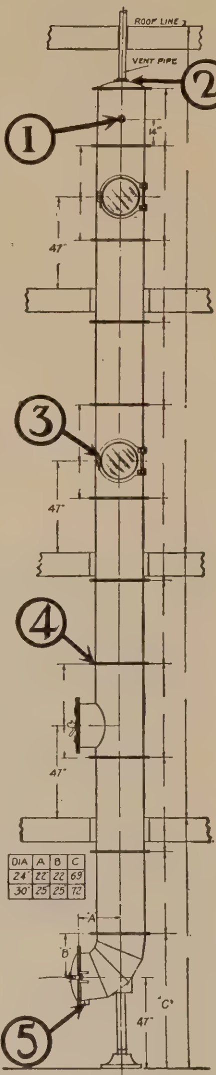

DIA	A	B	C
24"	22	22	69
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Laundry Chute Division
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PFAUDLER glass lined

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Let Kewaunee help make the new School a credit to the community. We have been designing and manufacturing Laboratory Furniture for Schools, Hospitals, Manufacturing Plants, etc., for a generation.

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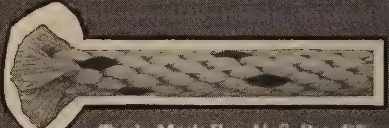

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To the architect Fairbanks-Morse offers not only a well-rounded line of pumping equipment, but also an engineering service that has as its background the wealth of experience gained in effectively meeting the diversified needs of practically every industry where highly specialized pumping is required.

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PUMPS · DIESEL ENGINES · MOTORS

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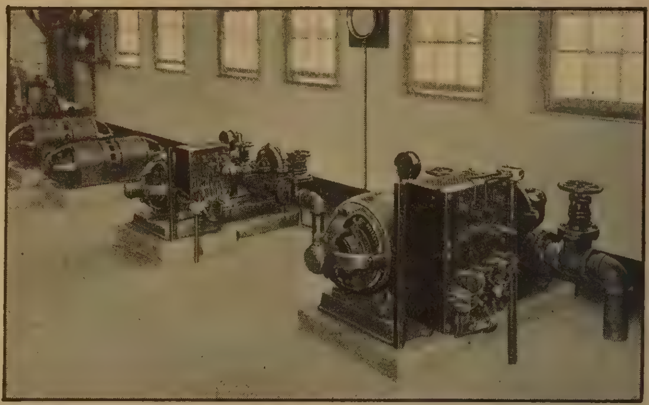

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Consider *responsibility* first!

Since the Fairbanks-Morse line embraces both power and pumping equipment, most conditions can be met by unit-built combinations—motor-driven centrifugal or reciprocating pumps in which both the motor and pump unit are built and backed by Fairbanks-Morse.

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From the time plans are taking shape until the installation is in operation, Fairbanks-Morse engineers would like to work with you. Remember that Fairbanks-Morse service will continue to share your responsibility as long as the equipment is in operation!

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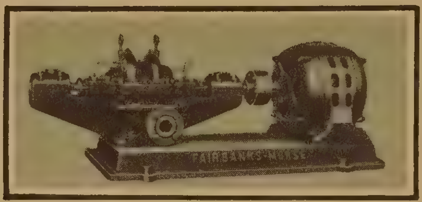
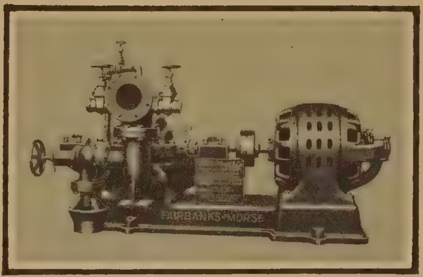


Multistage Centrifugal Pumps



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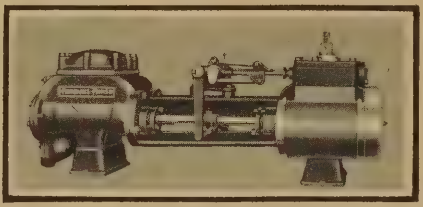

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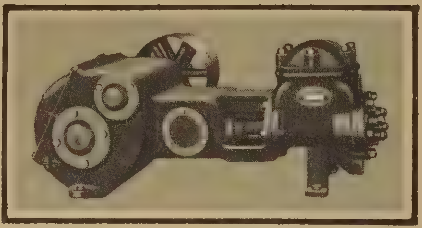

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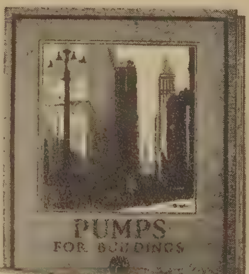

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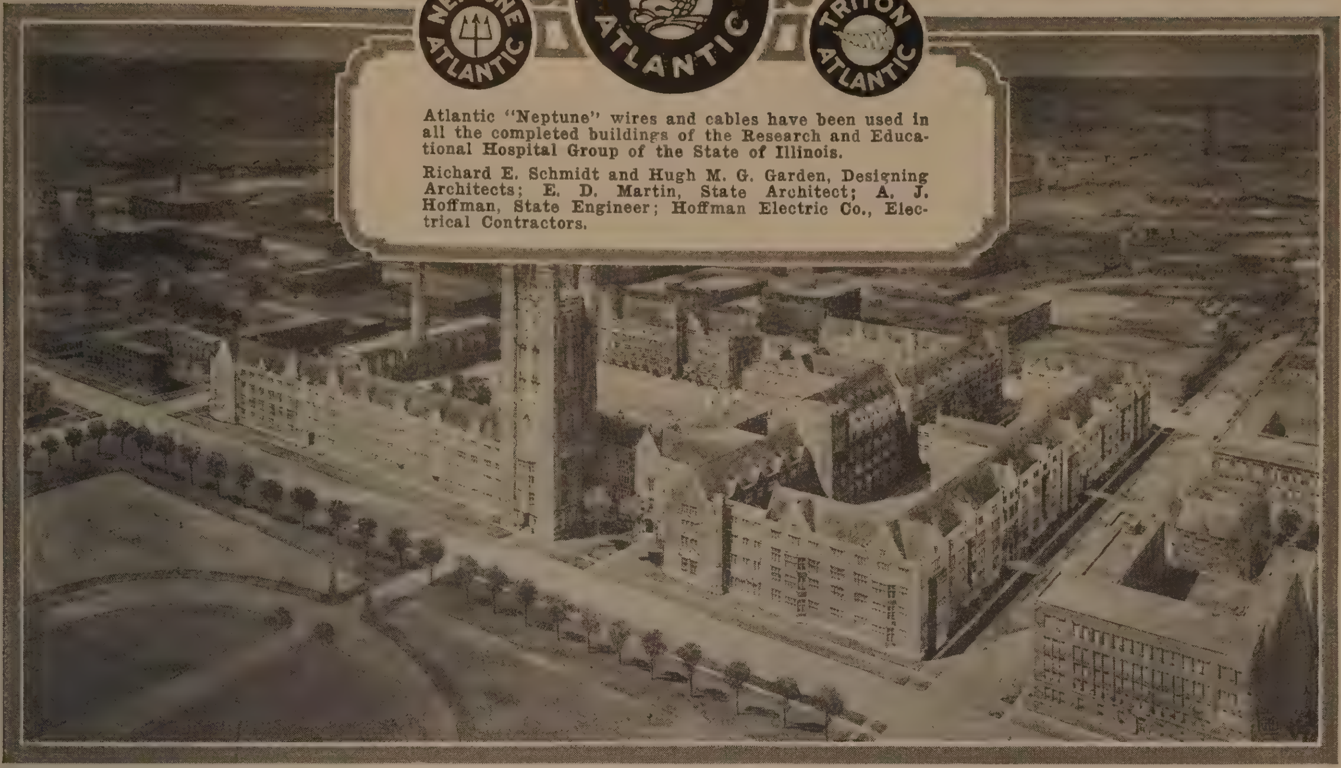
5-17

NEPTUNE ATLANTIC

DOLPHIN ATLANTIC

TRITON ATLANTIC



Atlantic "Neptune" wires and cables have been used in all the completed buildings of the Research and Educational Hospital Group of the State of Illinois.

Richard E. Schmidt and Hugh M. G. Garden, Designing Architects; E. D. Martin, State Architect; A. J. Hoffman, State Engineer; Hoffman Electric Co., Electrical Contractors.

The lights of a Hospital must never fail

Picture the consternation, perhaps the fatal results, if the operating room circuit in a hospital should fail during a major operation.

Yet this is but a single highlight in the wiring system of a great hospital unit such as the Research and Educational Hospital group of the State of Illinois.

Little wonder then that Atlantic Wires and Cables are being used in this great project—and that architects generally are turning with increasing regularity to the three Atlantic brands, "Triton," "Neptune," and "Dolphin."

This picture shows a three year old sample of Atlantic Neptune insulation exceeding a tensile strength of 1,200 pounds per square inch. This sample stretched to six times its original length before breaking. Atlantic insulation is compounded to give it remarkable aging qualities.

Back of every Atlantic brand there lies over a quarter century of experience in the manufacture of the highest grade wires and cables—and a reputation built by performance in many of the country's finest buildings.

If you would like further information, reports of tests, or samples for your own tests, we will be glad to send them upon request.

ATLANTIC INSULATED WIRE & CABLE CO., Rome, New York

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INSULATED WIRES AND CABLES

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ALL Anchor Fences, Railings and Gates have one attribute in common—*enduring construction.* They are built to last.

For example, Anchor Chain Link Fences are heavily galvanized, not in part, but *throughout,* to thoroughly protect them against rust. The wire used for their fabric is rust-resisting in itself—copper-bearing steel—Galvanized After Weaving as a double safeguard against corrosion.

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Anchor Ornamental Iron Gate

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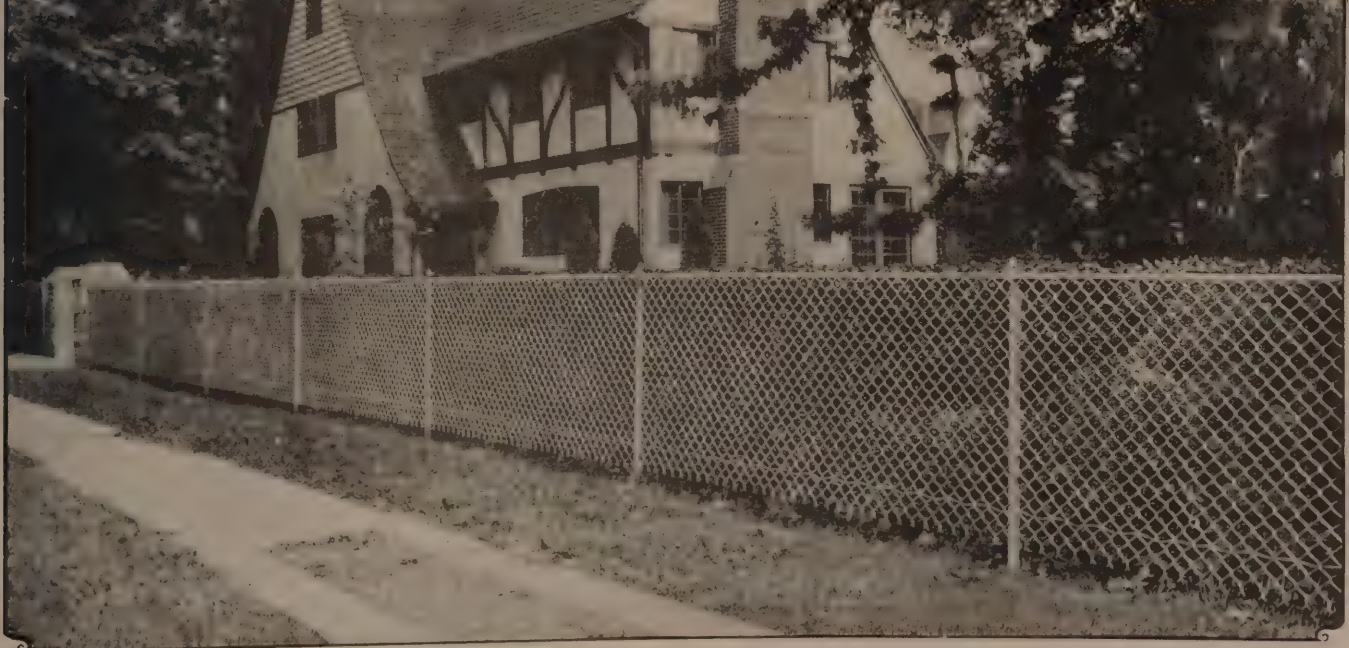

VICKS
VAPORUB
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COMPANIES, and battalions and regiments of Vapo-Rub jars in a never ending column move over belt conveyors. Seemingly at some signal a column of jars sets off by the right or left flank, in orderly precision, while another company moves in on the main column and joins it without a hitch.

The perfect alignment, the regularity and unison of the movement does remind one of marching soldiers, only here the column is endless.

Figured on an individual jar the saving in handling is fractional, by the gross the saving is noticeable, by the tens of thousands appreciable, and by endless volume indispensable. So it is in all savings,—material handling or otherwise.

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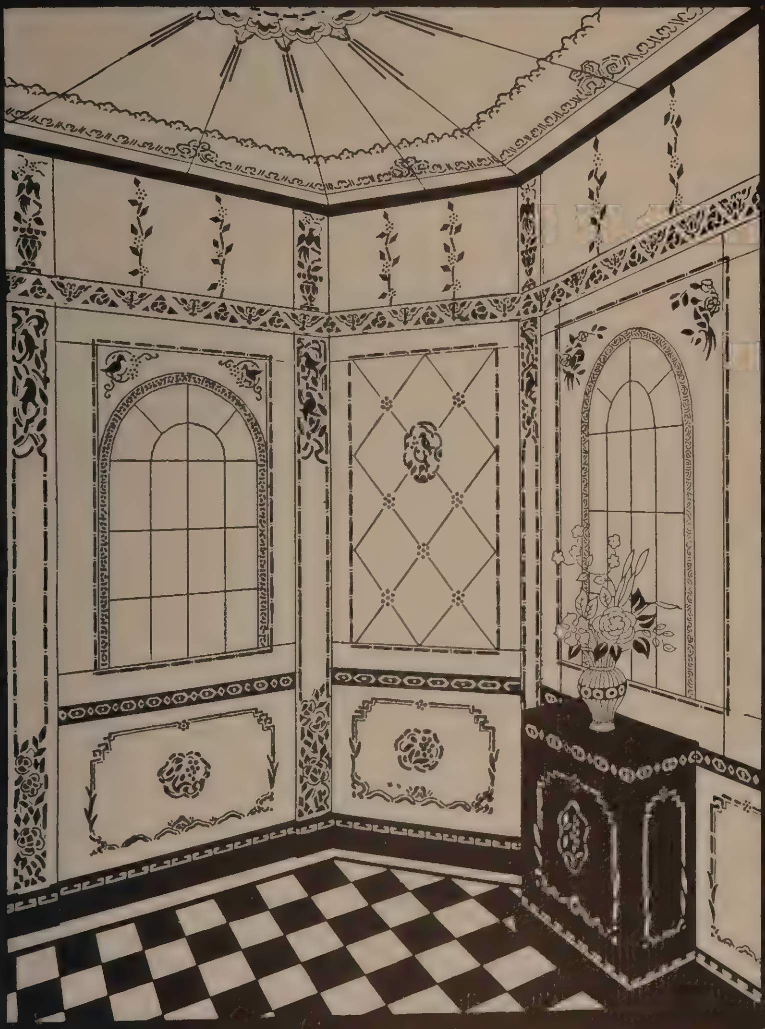
THE LACQUERED COROMANDEL SCREENS OF CHINA SO RICH IN DECORATIVE ELEMENTS HAVE IN VITROLITE AN ENDURING MEDIUM FOR THE RECREATION OF THEIR FRAGILE BEAUTY. THE EARTH FLOWERS BIRDS BUTTERFLIES CLOUDS AND THE RAYS OF THE SUN ALL SYMBOLIC IN CHINESE ART GIVE SPECIAL INTEREST TO THIS CHARMING COMPOSITION IN THE VITROLITE SHOWROOMS PERSHING SQUARE BUILDING NEW YORK•

VITROLITE



A VISIT TO THE RECENTLY COMPLETED VITROLITE SHOWROOMS IN NEW YORK AND CHICAGO REVEALS EFFECTS UNATTAINABLE IN ANY OTHER MATERIAL WHICH GIVE A NEW IMPETUS TO THE CREATIVE FACULTY AND AN ENLARGED VISION OF DECORATIVE POSSIBILITIES

THESE SHOWROOMS WERE DESIGNED IN THE VITROLITE ART DEPARTMENT WHERE A STAFF OF TALENTED ARTISTS AND DESIGNERS IS AT THE DISPOSAL OF ARCHITECTS FOR THE PREPARATION OF SKETCHES AND WORKING DRAWINGS OF VITROLITE INTERIORS AND ACCESSORIES

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YOUNG PUMP COMPANY

Room in the new American Wing, Metropolitan Museum of Art. Roof trusses repeat the structure of the "Old Ships Meeting House" of Hingham, Mass. (1681). Photo by courtesy Metropolitan Museum of Art

FOR PERMANENCE—CLINTON WIRE LATH

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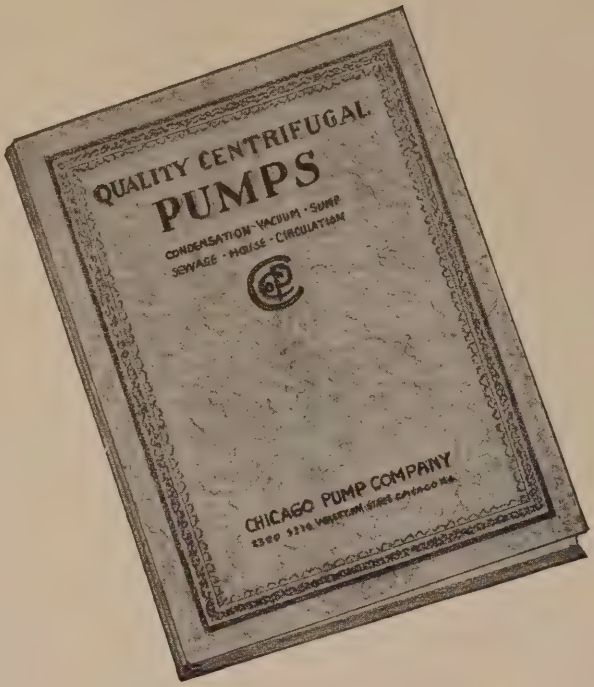
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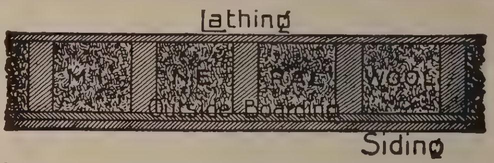

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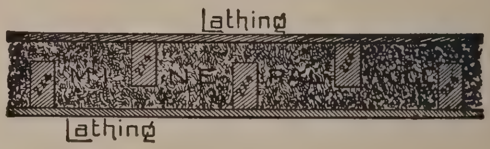

Section of Sound-Proof and Fire-Proof Partition

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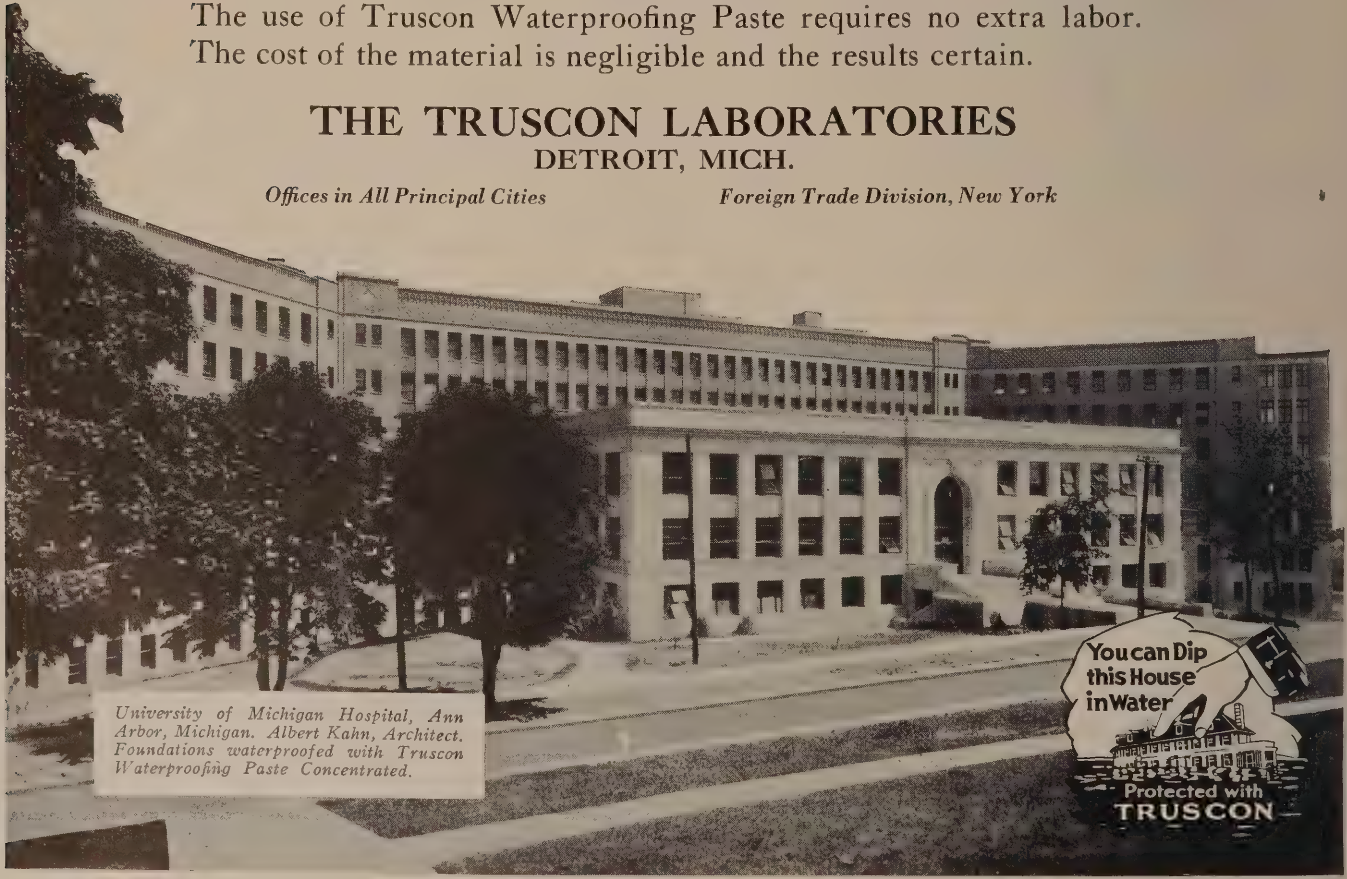

University of Michigan Hospital, Ann Arbor, Michigan. Albert Kahn, Architect. Foundations waterproofed with Truscon Waterproofing Paste Concentrated.

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BY itself, a swimming pool is a dangerous place. Many bathers use it—and almost every one of them may introduce harmful bacteria into it.

Many epidemics of eye and ear trouble, and even more serious things, have been traced to insanitary swimming pools.

After an architect has designed the pool and specified the tile and lighting to give a clean refreshing appearance, he is obliged to go a step farther. He must make some provision to assure that the water in the pool will be pure and refreshing.

By specifying R-U-V, ultra violet ray, Sterilizers the architect is specifying Mother Nature's own method for water purification—many times intensified.

R-U-V Sterilizers produce powerful ultra violet rays with a quartz mercury vapor lamp and shoot them through each drop of recirculating water. These rays are the same as the purifying element of the sun's rays.

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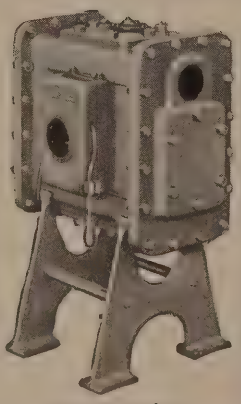
It is just as refreshing as Mother Nature intended it to be—and it is absolutely pure. If you are interested in providing that kind of water for the pools which you design, send for our Booklet (F-15).



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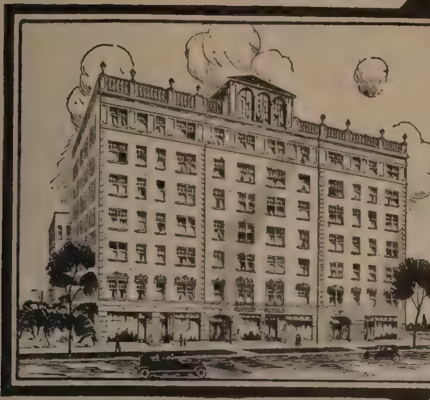
Almost every day some long established office abandons its individual contract forms and adopts outright, as its own, the entire line of Contract Documents of the A. I. A.

The Standard and other Contract Documents are giving to the Architects the *Maximum* in satisfaction and the *Minimum* in law-suits.

Your dealer can supply the Standard Documents. All documents are obtainable from the Executive Secretary, the A. I. A., The Octagon House, Washington, D. C. Every order is filled on the day received, transportation prepaid.



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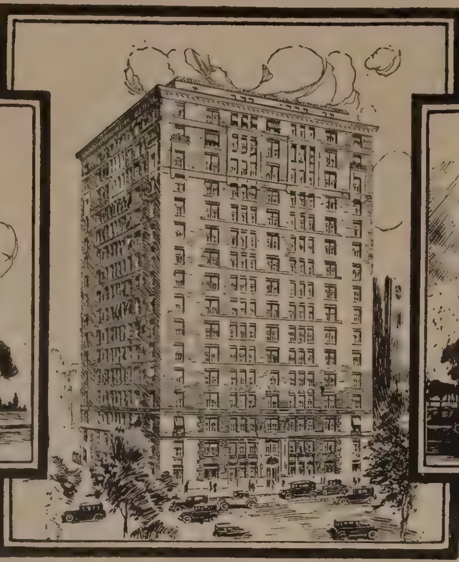

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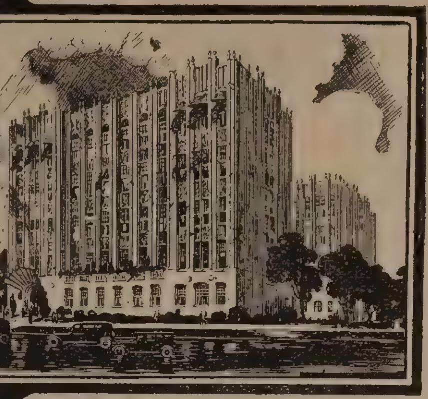

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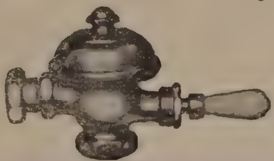

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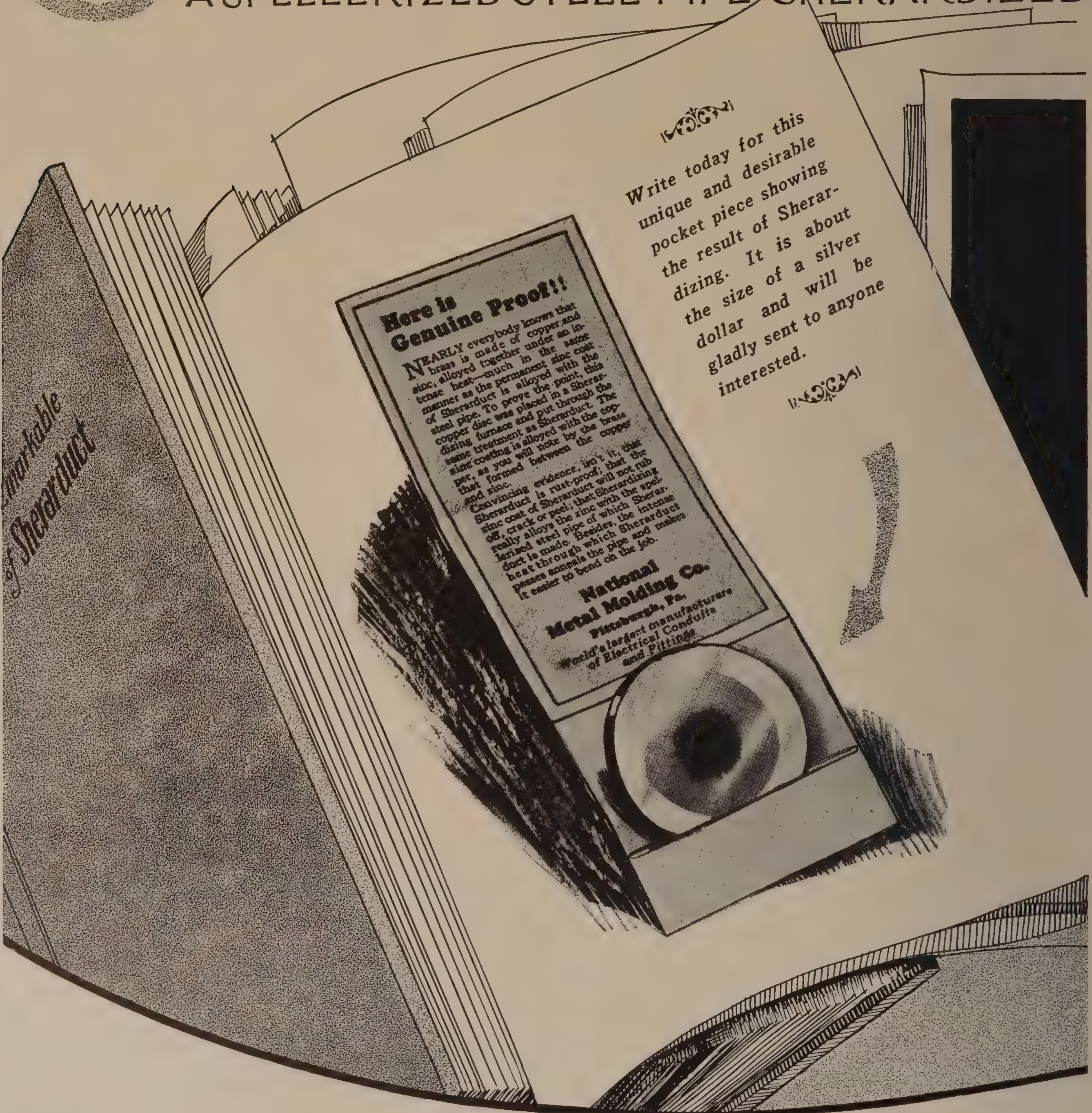
Shera

A SPELLERIZED STEEL PIPE SHERARDIZED



Here is Genuine Proof!!

NEARLY everybody knows that brass is made of copper and zinc, alloyed together under an intense heat—much in the same manner as the permanent zinc coat of Sherarduct is alloyed with the steel pipe. To prove the point, this copper disc was placed in a Sherardizing furnace and put through the same treatment as Sherarduct. The zinc coating is alloyed with the copper, as you will note by the brass that formed between the copper and zinc.

Convincing evidence, isn't it, that Sherarduct is rust-proof; that the zinc coat of Sherarduct will not rub off, crack or peel; that Sherardizing really alloys the zinc with the spellerized steel pipe of which Sherarduct is made. Besides, the intense heat through which Sherarduct passes anneals the pipe and makes it easier to bend on the job.

National Metal Molding Co.
Pittsburgh, Pa.
World's largest manufacturers of Electrical Conduits and Fittings

Write today for this unique and desirable pocket piece showing the result of Sherardizing. It is about the size of a silver dollar and will be gladly sent to anyone interested.

National Metal

The National Wiring System ~ FOR SAFETY And PERMANENCE ~

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AND ENAMELED FOR SAFE PERMANENT WIRING

Accomplishments of an Exclusive Processs of Zinc Treating

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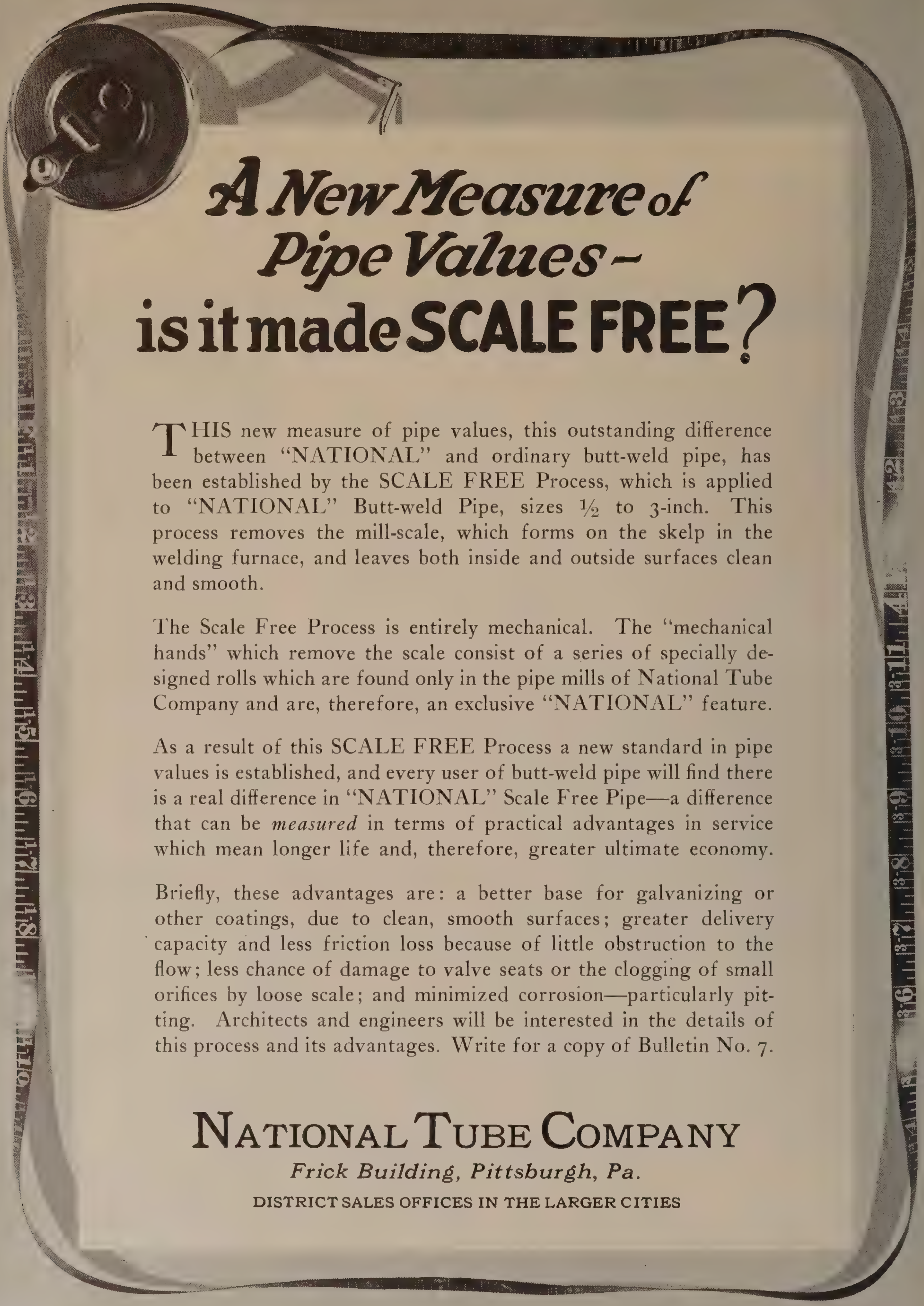
NATIONAL PRODUCTS

This book is not available in printed form Its pages may be read only as they are unfolded here and in future advertisements.

Molding Company

1101 Fulton Building PITTSBURGH ~ PA.



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THIS new measure of pipe values, this outstanding difference between "NATIONAL" and ordinary butt-weld pipe, has been established by the SCALE FREE Process, which is applied to "NATIONAL" Butt-weld Pipe, sizes ½ to 3-inch. This process removes the mill-scale, which forms on the skelp in the welding furnace, and leaves both inside and outside surfaces clean and smooth.

The Scale Free Process is entirely mechanical. The "mechanical hands" which remove the scale consist of a series of specially designed rolls which are found only in the pipe mills of National Tube Company and are, therefore, an exclusive "NATIONAL" feature.

As a result of this SCALE FREE Process a new standard in pipe values is established, and every user of butt-weld pipe will find there is a real difference in "NATIONAL" Scale Free Pipe—a difference that can be *measured* in terms of practical advantages in service which mean longer life and, therefore, greater ultimate economy.

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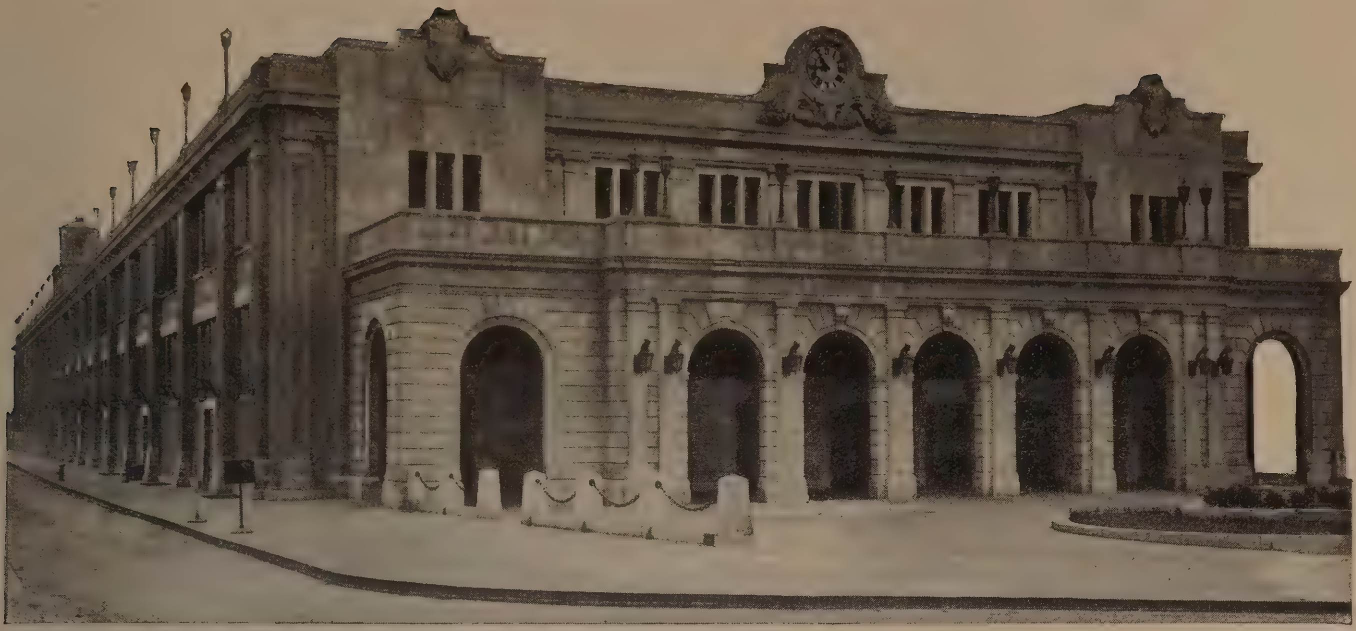
NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES IN THE LARGER CITIES

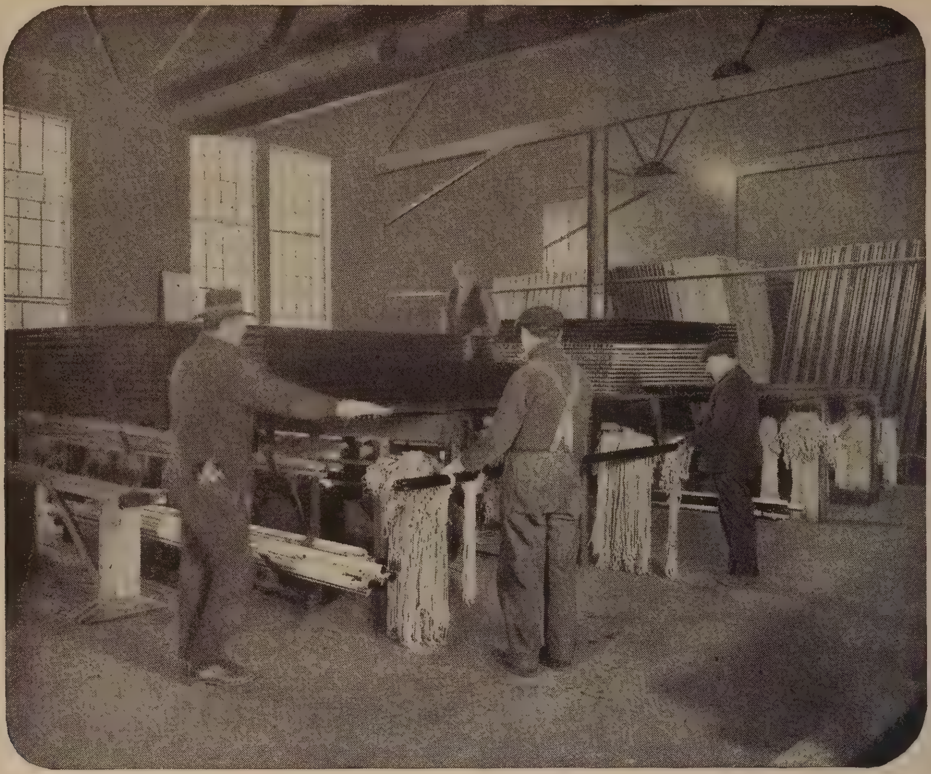


NEWARK PUBLIC MARKET
Frank Grad, Architect

Brass Pipe
Rust-proof and Lasting

Newark Centre Market is 680 feet long and the second floor is used for garage and parking purposes. This new market is BRASS piped throughout. Hardware is BRONZE.

COPPER & BRASS
RESEARCH ASSOCIATION
25 Broadway, New York



BUNDLING

"Central Black" and "Central White" Conduit

"Central Black" and "Central White" Conduit is unloaded from the cages and placed on the Bundling Benches. As each cage is unloaded the outside and inside of each conduit length is inspected.

The final inspection and test is then given by inspectors from the Underwriters' Laboratories. Then the approved conduit is stamped with the Underwriters' label.

Thereafter it is rolled down into hooks where it is bundled and tied securely at each end with a cord of tested and proven strength that will hold the conduit rigidly in place.

"Central" Conduit is now ready to be taken to the stock room.

Conduit that bears the Underwriters' Label must pass a series of tests and inspections given by inspectors from the Underwriters' Laboratories. Every finished length of "Central Black" and "Central White" Conduit carries this stamp of approval of the Board of Underwriters.

CENTRAL TUBE COMPANY

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PITTSBURGH
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AND
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PUBLIC LEDGER
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Horace Trumbauer, Architect

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In any structure where corrosives are handled, only Duriron pipe will give an unlimited service, and will permanently eliminate repairs, replacements and damage.

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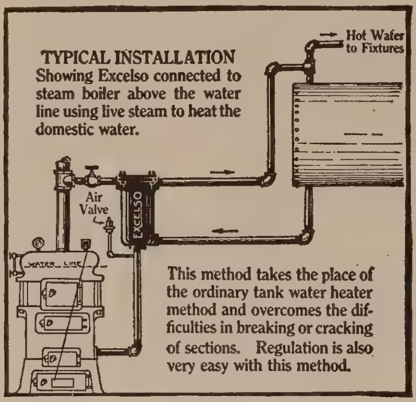
THE EXCELSO METHOD ENDORSED

NOT only every plumbing and heating jobber of standing, but practically every *boiler* and *radiator manufacturer* endorses and sells the Excelso Indirect Heater.

It is the quality indirect copper coil heater that uses the fire that warms the home to heat a plentiful supply of hot water. Sizes for all requirements.



TYPICAL INSTALLATION
Showing Excelso connected to steam boiler above the water line using live steam to heat the domestic water.

This method takes the place of the ordinary tank water heater method and overcomes the difficulties in breaking or cracking of sections. Regulation is also very easy with this method.

Write for installation literature

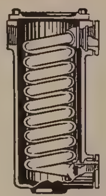
EXCELSO SPECIALTY WORKS, Inc.
69 Clyde Ave., Buffalo, N. Y.

DISTRICT REPRESENTATIVES:

210 E. 45th St. New York, N.Y.
5939 Haverford Ave. Philadelphia, Pa.
32 Oliver Boston, Mass.

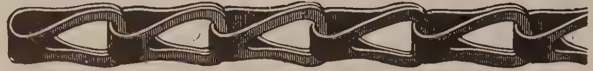
EXCELSO

Nationally Distributed by Leading Jobbers and Boiler and Radiator Manufacturers.



Single coil heaters from 30 to 120 gal. capacity. Double coil heaters from 160 to 400 gal. Triple coil heaters, 600 gal. and 800 gal.

SASH CHAINS
"Giant Metal"
"Red Metal"
and Steel



Reliable Sash Chains have been manufactured by us for forty-five years. Our chains are installed in most of the better built buildings of the country.

See Page 1443, Sweet's Catalog.
Write for Sash Chain Catalog A1

The SMITH & EGGE MFG. CO.
Bridgeport, Conn.
ORIGINATORS OF SASH CHAINS

"That Architect Always Knows"

Because everyone said that about him, he was called in on all worth-while building projects in his community.

He had built his reputation by a simple plan—by knowing and recommending the leading firm in each important line of building materials and equipment.

KEWANEE was his choice for private systems of water supply, electric lights and sewage disposal—for he knew KEWANEE had 200 systems, backed by a quarter century of experience.

It will pay you, too, to know and recommend KEWANEE systems. The KEWANEE Specification Book for architects gives you complete engineering data for planning any installation of private water supply, electric light or sewage disposal. KEWANEE counsel is free to you—at your request.

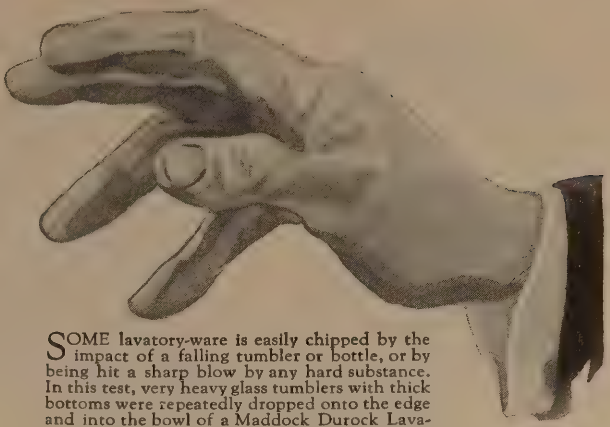
Write for the KEWANEE Specification Book today.

KEWANEE PRIVATE UTILITIES COMPANY
442 S. Franklin St., Kewanee, Ill.

KEWANEE

"BUNGALOW MODEL"
Water Supply System
NOW
$140

This tumbler test proves that DUROCK *cannot be chipped*



SOME lavatory-ware is easily chipped by the impact of a falling tumbler or bottle, or by being hit a sharp blow by any hard substance. In this test, very heavy glass tumblers with thick bottoms were repeatedly dropped onto the edge and into the bowl of a Maddock Durock Lavatory, breaking the tumblers, but leaving the wash basin absolutely undamaged and unmarred.

The Madbury
K-2201

THE finest leg-based lavatory. All exposed parts of Durock — no metal to polish. Integral combination hot-and-cold water inlet, giving a single stream of any desired temperature; large, square bowl; anti-splash rim; hooded overflow outlet, automatically cleansed.

DUROCK is not a coated ware. It has no outer "skin" to chip, peel, scale, or otherwise separate from the body.

This is because Durock is a material of a single nature all through; not a combination of two unlike materials, imperfectly, and therefore but temporarily, joined.

The body of Durock is of ceramic nature—a dense, non-porous flint rock and clay, baked to rock-like hardness and strength; the surface is also of ceramic nature—a glaze like rock-crystal in its hard, glassy smoothness; body and surface are fused together under heat so intense that only ceramic materials can endure it.

The result is Durock—a ware that withstands not only indefinite use but even abuse; a ware that is not marred nor damaged by such common bathroom accidents as the dropping of tumblers or bottles.

Durock is practically indestructible, permanent, unchangeable, everlasting. Its gleaming, brilliant whiteness will never become dull or dingy; it will not stain, nor hold soil.

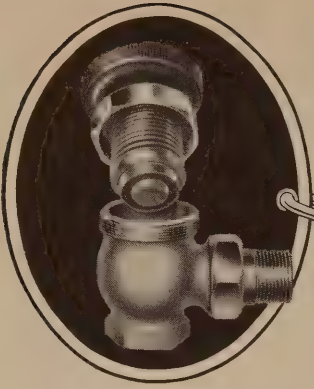
Write us for as many copies as you can use of our booklet, "Maddock Bathrooms". They will help you "sell" clients on quality fixtures, and make them more appreciative of such fixtures when recommended. There will be no charge for the booklets.

Bathroom equipment and plumbing fixtures of Durock are made solely and exclusively by us.

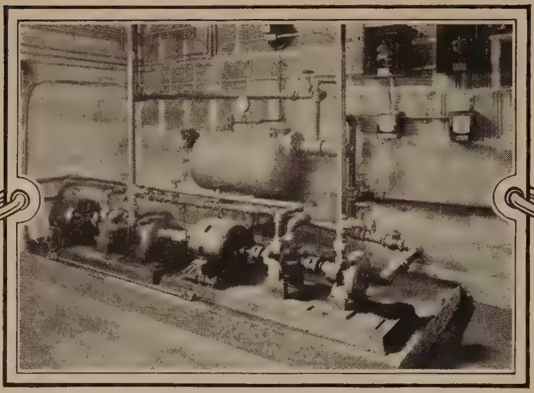
THOMAS MADDOCK'S SONS CO.
Oldest Sanitary Potters in America
Trenton, N. J.

MADDOCK
DUROCK Bathroom Equipment

THOS. MADDOCK'S SONS CO. TRENTON, N.J.



Trane Bellows—Packless Valve



Trane Duplex Return Line Vacuum Pump

Trane Bellows Radiator Trap

Think over this Undivided Responsibility idea. Trane has made it *mean* something

The Sacred Heart Buildings are shown below. Thomas F. Ellerbe and Company, St. Paul, were the architects; James Conroy, St. Paul, was the heating contractor.

This advertisement is No. 2 of the Trane Undivided Responsibility Series.

There are four buildings at the present time included in the central heating project of the Sacred Heart Parish buildings, St. Paul, Minn.—a school and auditorium, a church, a pastor's residence, and a Sisters' Home. The longest main runs about 400 feet. Approximately 200 traps and valves are used, along with an RD1810 (18,000 sq. ft.) vacuum pump.

Mr. Conroy, the heating contractor, says:

"This job has run all winter with 200 Trane Bellows Traps and 18 drip traps hooked on. We tested out the job for leaks at 15 pound pressure and while doing so the Trane traps operated perfectly, as did also the Trane pumps.

"The operating engineer at the Sacred Heart, and the Building Committee are very well pleased."

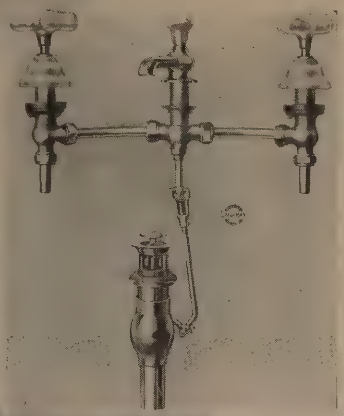
This installation is typical of the type of buildings where Undivided Responsibility is particularly desirable. The job is 100% Trane, and the owners, the architects, and the heating contractor are protected in every way by Trane's Undivided Responsibility. This protection really means something. Think it over.

THE TRANE COMPANY, 220 Cameron Ave., La Crosse, Wis.; 21-23 River St., Toronto, Ontario, Canada. Factories at La Crosse and Toronto. Branch offices and sales connections throughout the U. S. A., Canada, England, Japan, and China.

H-952½ Mixometer Shower

Some of the Speakman One Outlet Fixtures illustrated and described in this Catalog

—Ready for your files — A1A Classification 29H3



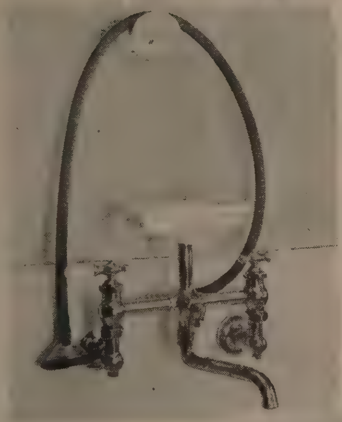
H-2276 Unit-Acto Lavatory Fixture

The name of SPEAKMAN has been identified with the plumbing industry for 57 years. It is with this background of knowledge that all SPEAKMAN Showers and Fixtures are built.

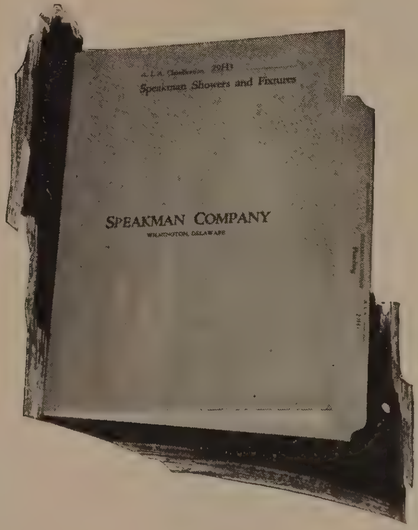
If you feel that our years of experience would be of any value to you in individual problems, please feel free to call upon us.

Our catalog in loose-leaf form complete with specifications will be sent to architects requesting it. Use the coupon if more convenient.

SPEAKMAN COMPANY
WILMINGTON, DELAWARE



H-1894 Sink Fixture



H-2460 Deshler Bath Fixture

SPEAKMAN COMPANY, Wilmington, Del.

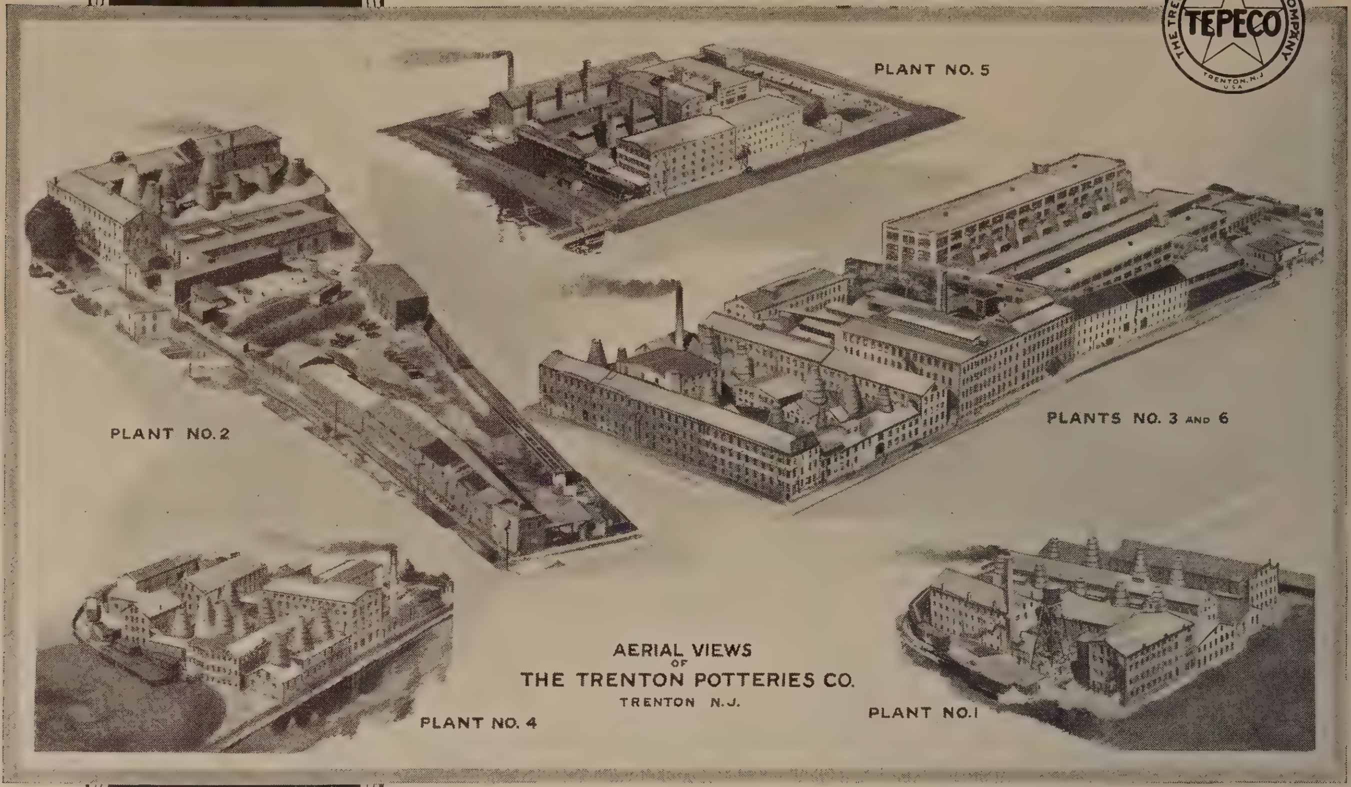
Please send me your catalog H in loose-leaf form; also reprint of your eleven pages in Sweet's Architectural Catalog, 1925-26 edition.

Name......................................

Address......................................

Firm......................................

SPEAKMAN SHOWERS and FIXTURES


PLANT NO. 5
PLANT NO. 2
PLANTS NO. 3 AND 6
AERIAL VIEWS OF THE TRENTON POTTERIES CO. TRENTON N.J.
PLANT NO. 4
PLANT NO. 1
THE TRENTON POTTERIES COMPANY TEPECO TRENTON, N.J. U.S.A.

Continued Growth

MANY years devoted to the making of Te-pe-co All-Clay Plumbing Fixtures have resulted not only in increasing demand and necessary expansion, but in an established world-wide reputation.

This remarkable growth and enviable reputation have been built solely upon the adherence to one policy—making the best ware we can produce and selling that product at reasonable prices.

The Te-pe-co trade mark is found on all goods manufactured by this company. It guarantees Te-pe-co to be equal in quality and durability to any sanitary ware made in the world.

THE TRENTON POTTERIES COMPANY
TRENTON, NEW JERSEY, U. S. A.
NEW YORK BOSTON PHILADELPHIA SAN FRANCISCO

World's Largest Manufacturers of Fine Quality All-Clay Plumbing Fixtures

TE-PE-CO

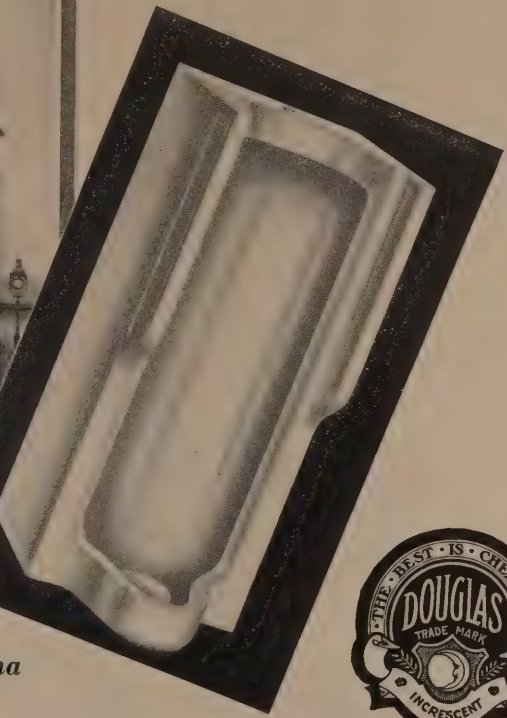
Chambers & Thomas, Buenos Aires, *Architects*
York & Sawyer, New York, *Consulting Architects*
Stone & Webster Incorporated, Boston, *Builders*

First National Bank of Boston, Buenos Aires, Argentina

Vitreous China Urinal Stalls

for the

Most Handsome and Modern Bank Building *in* South America



THE · BEST · IS · CHEAPEST
DOUGLAS
TRADE MARK
INCRESCENT

Recognized for their durability and highly sanitary qualities, Vitreous China Urinal Stalls were selected for this most prominent South American Bank and Office Building.

The reason for the immediate recognition of this new piece—is the unqualified opinion that vitreous china is the most sanitary material from which plumbing fixtures can be made.

Vitreous China Water Closets and Lavatories have long been considered a standard requirement of all good building.

Douglas Vitreous China Urinal Stalls are made of the same vitreous body as their water closets and lavatories.

Douglas Urinal Stalls are the Only Full Sized Solid Vitreous China Urinal Stalls made—the result of intensive study and experimenting. They are of the same high quality materials and workmanship that have distinguished all Douglas products.

Upon request we will send descriptive literature and the names of buildings in your vicinity where Douglas Vitreous China Urinal Stalls are being used.

Dimensions: Height 43 inches over all, from finished floor to top of urinal 39 inches, width 18 inches full.

Manufactured by

General Office:
Cincinnati,
Ohio

The John Douglas Co.

Manufacturers of High Grade Plumbing Fixtures

Factories:
Cincinnati, Ohio
Trenton, N. J.

America's first residence-skyscraper

About the middle of September, the new Ritz Tower will open, a 41-story apartment hotel reaching to a height of 554 feet above the corner of Park Ave. and 57th Street, New York City.

This is a building of a new type—New York's pioneer residence-skyscraper. Under the same management as the Ritz-Carlton Hotel it will be not only a high building, but a building in which high standards are insisted upon—and high standards in relation to valves means Jenkins.

In plumbing work, and on the fire hose lines, valves marked with the Jenkins "Diamond" mark are being installed.

This mark is a symbol of first importance in avoiding substitution. It signifies valves made for the maximum service, not merely the average. It is a symbol that gives assurance of long trouble-free service whether the valves be used for plumbing, heating, fire-protection or power plant work.

JENKINS BROS.

80 White Street..........New York, N. Y.
524 Atlantic Avenue..........Boston, Mass.
133 No. Seventh Street..........Philadelphia, Pa.
646 Washington Boulevard..........Chicago, Ill.

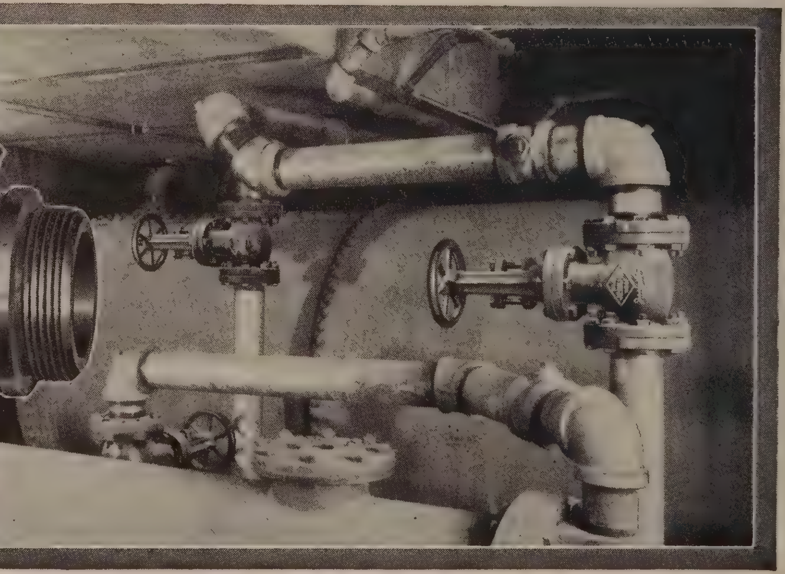
JENKINS BROS., Limited
Montreal, Canada London, England

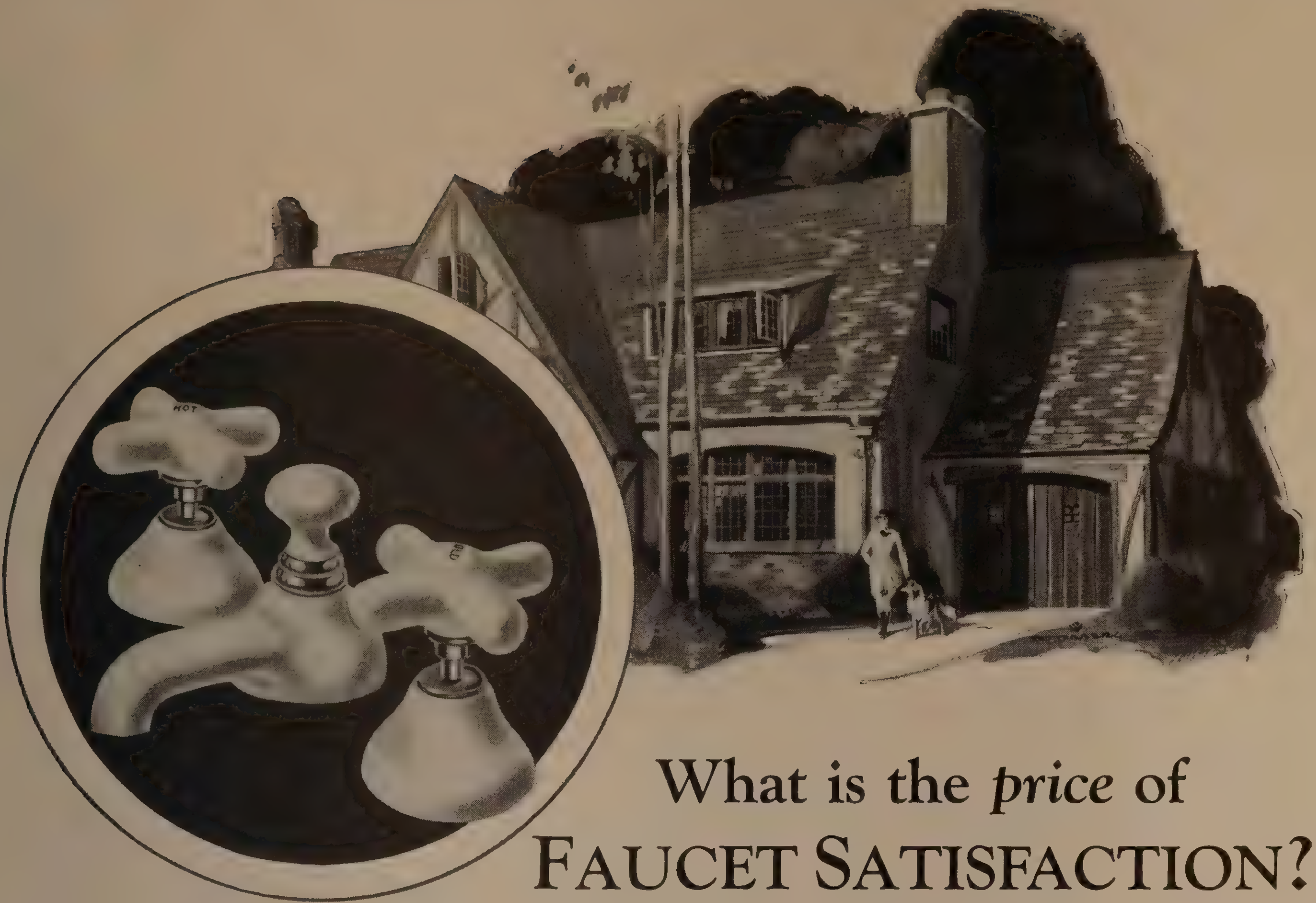
FACTORIES:
Bridgeport, Conn. Elizabeth, N. J. Montreal, Canada

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864

Left: Ritz Tower, Park Ave. at 57th St., New York City
Emory Roth, Architect
Baker-Smith & Co., Heating
J. L. Murphy Inc., Plumbing
Todd, Robertson and Todd, Builders
Clyde R. Place, Consulting Engineer
Left—Fig. 112, Jenkins Bronze Hose Angle Valve used on Fire Protection Lines.
Below: Jenkins Standard Iron Body Gate Valves in lines to hot water pre-heater tanks.

TRADE
JENKINS
MARK





What is the *price* of FAUCET SATISFACTION?

People are becoming more and more faucet "conscious." One reason is because better plumbing is being more frequently brought to their attention. For example, Mueller educational advertising is reaching more than 3,800,000 families every month.

The true cost of faucets is recorded in time—not on price tags. From the standpoint of first cost, even the finest faucets are inexpensive—almost negligible when compared with the rest of the plumbing installation.

Yet your own experience must have shown you that some faucets require almost endless repairs, while others function smoothly for years with practically no attention.

Just a few cents' difference between the best and the poorest faucet . . . but how many dollars' difference in the price of faucet satisfaction!

This is something to consider when writing plumbing brass goods in your specifications. Will your client pay for faucets and other brass fittings once . . . or will replacements and the attendant heavy labor charges run the price of plumbing satisfaction to an exorbitant amount?

You can avoid unnecessary expense by specifying Muellers at all the Vital Spots of plumbing.

MUELLER CO.
(Established 1857)
Factories: Decatur, Illinois; Port Huron, Michigan

Canadian Factory
MUELLER, Limited, Sarnia

Branches
New York, San Francisco, Los Angeles

MUELLER

faucets without a fault

Sanguinet, Staats & Hedrick, Fort Worth, Texas Architects

Beach Plumbing & Heating Co. Fort Worth, Texas Plumbing Contractors

N. W. Overstreet, Jackson, Miss., Associate Architect

Lamar Life Insurance Building

Jackson, Miss.

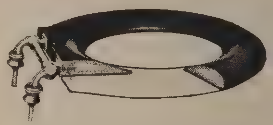
THIS beautiful new building, which seems to symbolize the progressive spirit of a fine old southern city, is equipped with Evernu Hard Rubber Toilet Seats. The fine appearance of these seats will endure as long as the building itself. There will be no repairs or replacements. First cost will be the only cost.

In the best interests of your clients this is the toilet seat to specify. With all its superiority it costs no more than an ordinary seat.

There is an Evernu model in mahogany and ebony color for every type of bowl. Architects who desire to do so may specify the hinge metal.

Have you a copy of the new Evernu catalog? It is the most complete catalog of toilet seats, both hard rubber and wood, ever issued. Condensed specifications will be found in Sweet's catalog.

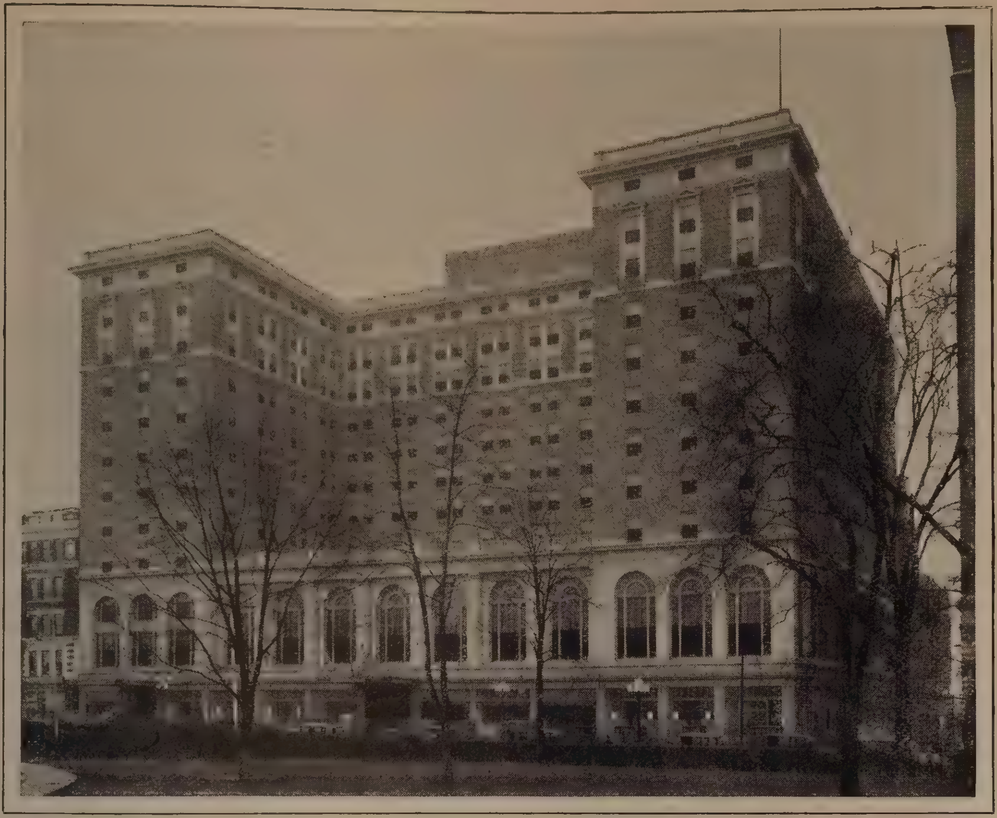
NEVER SPLIT SEAT COMPANY
Dept. 125, Evansville, Indiana, U. S. A.
Founded 1905



Evernu is the perfect seat. The interior wall of special hard rubber of great strength and the outside surface of solid color hard rubber are vulcanized under hydraulic pressure into one lasting piece. No finish to wear off. No joints to open up. The hollow center pro-provides lightness with strength. The hinge is as durable as the seat.

Evernu
Everlasting Hard Rubber
Seats
Patented

The Largest Manufacturers of Toilet Seats in the World



THE NEIL HOUSE, Columbus, Ohio: Gustave W. Drach, Architect, Cincinnati, Ohio; The Dreher Supply Company, Plumbing Jobbers, Columbus, Ohio; J. A. McBride Mechanical Equipment Company, Plumbers, St. Louis, Missouri

HARDLY a week passes without the addition of some new name to the blue book of hotels in which Kohler Plumbing Fixtures are used.

Now comes the Neil House, just completed in Columbus, Ohio, with its 625 Kohler built-in baths — one more tribute to the fineness of this ware and to the regard in which it is held by the architects of America.

Kohler fixtures will maintain and extend that regard — by manifesting as in the past those quiet evidences of superiority which distinguish the exceptional from the merely good.

An Inspiring Community

Such is that fine exemplar of American community-planning—Kohler Village, where live the makers of Kohler plumbing fixtures and private electric plants

KOHLER CO., *Founded* 1873, KOHLER, WIS.
Shipping Point, Sheboygan, Wis. · *Branches in Principal Cities*

KOHLER OF KOHLER
Plumbing Fixtures

Reviews of Manufacturers' Publications

ATLANTIC TERRA COTTA COMPANY, New York. "Atlantic Terra Cotta"; printed monthly for architects.

This interesting periodical keeps one fairly well posted as to the progress of the use of structural terra cotta in different parts of the world. For example, the issue for February, 1926 (Volume VIII, Number 5) is almost wholly given up to illustrating the "Daido Seimai Kaisha" at Osaka, a modern banking structure built entirely of terra cotta from foundation to roof. The structure proves that Japan is committed, as far as business buildings go, and especially large structures, to the following of European or American ideas. Here is a large building eight or nine stories high and costing $2,000,000, of which the walls are of terra cotta in ashlar pattern, the design of the structure making free use of Gothic motifs. The publication is full of ideas.

WICKWIRE SPENCER STEEL CO., New York. "Clinton Wire Lath." Authoritative specifications for their use.

The best and most economical use of wire lathing in its various forms is insured by the careful following of accurately drawn specifications. In this brochure there are contained descriptions, drawings, tables and specifications dealing with furring, lathing and plastering, with particular reference to the use of Clinton Wire Lath. Of especial value are the illustrations which make plain to the most minute detail the structure of walls so built up, also of the false columns or piers which, while they perform no structural function, are sometimes necessary to carry out certain architectural treatments of interiors. In addition to giving specifications for interior furring, lathing and plastering, the booklet covers the matter of the use of plaster and stucco for exterior purposes where it is useful.

ARMSTRONG CORK & INSULATION CO., Pittsburgh. "The Insulation of Roofs to Prevent Condensation."

The uses of insulation are many and varied. One is likely to think of insulation merely as protection against heat or cold, but insulation may be directed toward protection from noise, moisture, or in fact from anything which is undesirable. Webster thus defines insulation: "to separate from conducting bodies by means of nonconductors, to prevent transfer," or in other words, to isolate. This brochure is devoted to the matter of insulation of roofs against the condensation of moisture on their under sides, which particularly in cold weather creates unpleasant working conditions and seriously injures goods in process of manufacture or in storage. To prevent this is no more difficult than to insulate against anything else, and this brochure explains the principles involved and shows by calculations, charts and tables the value of Armstrong corkboard as a means of preventing sweating, of saving fuel, and maintaining even and comfortable temperatures.

FISKE & COMPANY, INC., Boston and New York. "Tapestry Brickwork." A treatise on methods of using it.

This publication represents the seventh edition of a well known work on building of brick by Claude Bragdon. The use of brick is so ancient and goes so far back into the unrecorded centuries of the human race that it is scarcely possible to name a place or a time where or when the making of brick was begun; it is vastly easier to select some ancient example of brick as a sort of starting place from which to begin tracing its use in the country concerned from the time of the example's making until now. The brochure is issued in the interests of the widely known "tapestry brick," a material possessing a great variety of color and much interest of texture, and easily to be made more than ordinarily interesting, as the author points out, by use of mortar colors of different kinds and by variety in the use of bonds. The brochure is of course well written, and it is made even more interesting by there being included illustrations of a great number of buildings ancient and modern, their exteriors and interiors illustrating most of the architectural styles in which brick have been used. Explanation is also given of the different bonds and joints.

THE CELOTEX COMPANY, Chicago. "Acousti-Celotex." Used for acoustical purposes in many types of buildings.

Securing satisfactory acoustic qualities in a hall or room of any kind is largely a matter of providing as facings for walls and ceilings such materials as readily absorb sound. This interesting booklet deals with the advantages given by the use of "Acousti-Celotex," a board made by felting the fibers of sugar cane,—the same basic material as Celotex Insulating Lumber, which is revolutionizing and augmenting the thermal insulation of buildings. The natural value of Celotex as a sound absorbent has been increased by drilling holes into it, thus adding about 150 per cent to the absorbing area. One striking merit of Acousti-Celotex is its adaptability to decorative treatment, a number of interesting examples of which are illustrated in this brochure.

ROOKWOOD POTTERY COMPANY, Cincinnati. "Rookwood Pottery." A word on its use and methods of use.

This collection of illustrated loose sheets deals with new departures in tile or pottery making, and the pages illustrate faience in which there are employed not only the uses of traditional conventionalized design but also those of landscape, perspective and portraiture in all their forms of application. The pages show use of faience in ways which are truly architectural,—the interior of a large bank, for example, where "Mat Glaze Faience" is used for building columned doorways, counter fronts, check desks, floors and wainscots, and even for presenting the portraits of several bank presidents. The work of course suggests many other novel uses for faience, in addition to affording an excellent idea of the great variety which the material can be made to assume at the hands of resourceful designers.

WESTINGHOUSE ELECTRIC & MFG. CO., South Bend, Ind. "Art in Outdoor Lighting." A brochure on lighting.

Architects and builders as well as interior decorators have been interested lately in the development upon a large scale of residence, hotel, and apartment house construction in certain parts of Florida. Here in a land which is semi-tropical, fortunate in having an architecture which is appropriate as well as historically identified with the region, and (what is even more important!) backed by abundant means, certain architects have created what must indeed be marvels of building and furnishing. Buildings which are themselves spacious and airy, intended chiefly perhaps for pleasurable living and replete with all the accessories which make living a pleasure, are of course dependent for much of their success upon skillful lighting, and in his beautifully produced brochure some account is given of what has been done in the way of lighting at "Coral Gables," one of the most notable of the large Florida real estate developments. The work will particularly interest architects.

COMMON BRICK MANUFACTURERS ASSN., Cleveland. "Brick; How to Build and Estimate." A useful booklet.

The beauty of brick as well as its stability causes the material to be preferred by many prospective home owners, but unfortunately there exists an idea that brick is inordinately costly. In the foreword to this brochure it is said that the first cost difference between brick and the cheapest form of construction for a five- or six-room cottage in any part of the United States amounts to no more than from $200 to $400. In addition to broadening the use of brick this booklet is likely to bring about its much more intelligent use. We know of no publication in which there are explained more lucidly the function of brick and the best and most economical ways of using it. These include not only the securing of excellence of appearance by use of attractive bonds, but also the best methods of brick construction, the securing of proper air spaces, giving of course an added guaranty of dryness. This valuable publication is really a complete treatise on the use of brick, and its study is recommended not only to builders and artisans but also to architects and their designers and specification writers as much as to master and journeymen builders.

How to add beauty, as well as the utmost in utility, to the bathroom

A practical decorating hint that architects know— that efficient managers today insist upon

PRACTICAL lavatories, yes! But attractive ones, too, is the new decree in homes and hotels, in public buildings . . . wherever practical-minded architects and owners have had experience in bathroom equipment.

The lavatory no longer is merely a necessity. It is the showplace in homes and buildings, reflecting the good taste of those responsible for it.

Attractive contrasts

Pleasing effects with tilework of contrasting colors, with glistening white porcelain and shining nickel, have made many bathrooms things of beauty. Add to this the dignity, the quiet, efficient attractiveness of Whale-Bone-Ite toilet seats, and a bathroom may be a symphony in good taste.

Whale-Bone-Ite seats come in two colors: ebony and mahogany. Unlike white seats, they retain their color. Unlike wooden seats, they never warp or break. Unlike celluloid compositions, they do not burn.

Whale-Bone-Ite seats are permanently enduring—they last the lifetime of the bathroom itself. Thousands today specify them for new homes and buildings, order them for the final replacement over unsatisfactory original installations.

Less costly in the long run

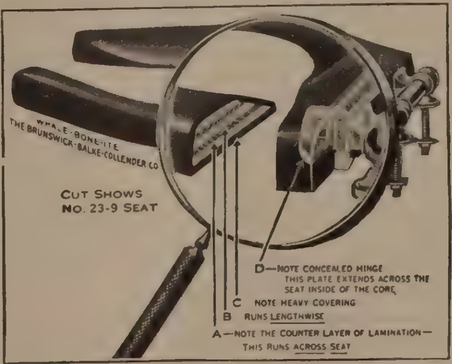
Whale-Bone-Ite seats are more costly than their rivals. But this betokens the true economy of a sterling article. For this higher first cost is long forgotten when the satisfaction of service remains fresh in the mind.

Here are the exclusive Whale-Bone-Ite features that have been in a large degree responsible for their universal acceptance and preferment.

They are impervious to acid or odor; they cannot mar, or crack, or split, for they are of one-piece solid moulded composition. The nickeled hinges are concealed, are strong and cannot get out of alignment.

Whale-Bone-Ite seats are the easiest to keep clean and sanitary, for there are no crevices to gather accumulations. Thus, on practical scores as on decorative, Whale-Bone-Ite seats are widely specified when the finest is sought, when permanence of fittings as well as upkeep cost is counted.

Your plumber or jobber can supply you with complete details of qualities and prices. Or write direct to:


WHALE-BONE-ITE
THE BRUNSWICK-BALKE-COLLENDER CO
CUT SHOWS
NO. 23-9 SEAT
D—NOTE CONCEALED HINGE
THIS PLATE EXTENDS ACROSS THE SEAT INSIDE OF THE CORE
C NOTE HEAVY COVERING
B RUNS LENGTHWISE
A—NOTE THE COUNTER LAYER OF LAMINATION—
THIS RUNS ACROSS SEAT

THE BRUNSWICK-BALKE-COLLENDER-CO.
WHALE-BONE-ITE
REG. U. S. PAT. OFF. 1914.
SEAT

Whale-Bone-Ite Division

The Brunswick-Balke-Collender Co.
623 South Wabash Avenue, Chicago

Reviews and Announcements

GRAYBAR ELECTRIC CO., INC., Offices in All Principal Cities. "Electrical Supply Year Book, 1926-7."

It was probably the vast volume of business done by the Supply Department of the Western Electric Co. which brought about its organization as a separate concern under the name of the Graybar Electric Co., Inc., the name being reminiscent of the firm of Gray & Barton, which in 1869 began making electrical supplies. The reorganization involves no change whatever in the distributing organization already existing, nor does it affect the facilities offered to buyers all over the country long afforded by the Western Electric Co. This massive volume is the yearly catalog of the concern, and it lists all the appliances of countless different kinds which are carried at all the numerous sales offices and warehouses of the company throughout the country.

IRVING HAMLIN, Evanston, Ill. "The Evanston Soundproof Door." A treatise on an important type of door.

Partitions which are proof against passage of sound are of course comparatively ineffective unless used with doors which are equally soundproof. Doors which are proof against sound are also proof against odors, dust, light, air and weather, and they practically seal a room hermetically, easily and quickly. In this booklet explanation is given of a door which was first used in 1910 at the School of Music, Northwestern University, in a building in which it was essential to provide practice rooms which are proof against interruption by sound from other practice rooms. The booklet gives a long list of schools, hospitals and other buildings where these Evanston Soundproof Doors are in use, and it gives also the names of a great number of architects who specify the doors in their work.

THE FAIRFACTS COMPANY, New York. "Fairfacts Fixtures; Architects' Edition." A booklet on bathrooms.

Bathrooms have for so many years been equipped with walls, ceilings, floors, fittings and everything else in dazzling white that the use of color in bathrooms comes with all the force of a new discovery. This interesting brochure is devoted to promoting the use of color in bathrooms, chiefly in walls and floors of colored tiles, the walls in some instances having dadoes, friezes, or panels so recessed as to be in effect alcoves. All this color is introduced into parts of a bathroom other than actual fixtures themselves, since however much one may admire use of color there is something about the purity of white which renders it attractive for fixtures with which one comes into personal contact. For instance, a bathroom may be fitted up with its walls and floor of gray tile, or else of gray and black, with considerable success, and yet one would prefer that soap holder and tooth brush holder be of white, and the combination of gray, black and white is particularly attractive. Fairfacts fixtures come, of course, in an endless variety.

TOCH BROTHERS, INC., New York. "Specifications for Dampproofing, Waterproofing, Enameling, Technical Painting."

The importance of waterproofing and waterproofing materials is such that their making and marketing have been developed into a large business. Toch Brothers, Inc., well known among the manufacturers of preservative paints and compounds, here issue in concise form directions for the use of these products, which are to be had of many types,—powders, pastes and liquids,—each of the products being assigned a page or a section where authoritative specifications are given, ready to be embodied in the typewritten specifications which are prepared in an architect's office for the guidance of builders and contractors. A manufacturing business of this nature, which involves giving practical solution to countless waterproofing problems, is doubtless obliged to render the public much in the way of what might be called "special service." This probably accounts for the maintenance by Toch Brothers, Inc. of a chemical laboratory and a staff of chemists at the disposal of clients who require materials to meet special conditions.

John M. Liptak, formerly of the office of Shape, Bready & Peterkin, announces the opening of offices at 366 Madison Avenue, New York.

Obadiah Bass and Flournoy G. Hagan announce the formation of the partnership of Bass & Hagen, with offices at 131 West Short Street, Lexington, Ky.

Eldridge T. Spencer has recently opened an office for the practice of architecture at 513 Richland Oil Building, Oakland, Calif. He desires the catalogs and other publications as well as the samples of manufacturers.

Theodore Richards announces the opening of offices at 185 Main Street, White Plains, N. Y. He asks that manufacturers add his name to their mailing lists of architects to whom are sent samples, catalogs and other publications.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, OF THE ARCHITECTURAL FORUM, Published Monthly at New York, N. Y., for April 1, 1926.

State of New York, County of New York, ss.:

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared Robert Sweet, who, having been duly sworn according to law, deposes and says that he is the business manager of The Architectural Forum and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager, are:

Publisher—Rogers & Manson Co., 383 Madison Avenue, New York, N. Y.
Editor—Parker Morse Hooper, New York, N. Y.
Managing Editor—None.
Business Manager—Robert Sweet, New York, N. Y.

2. That the owners are:

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3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

ROBERT SWEET,
Business Manager.

Sworn to and subscribed before me this 26th day of March, 1926.
(Seal) WILLIAM A. LOW,
(My commission expires March 30, 1927.) Notary Public.

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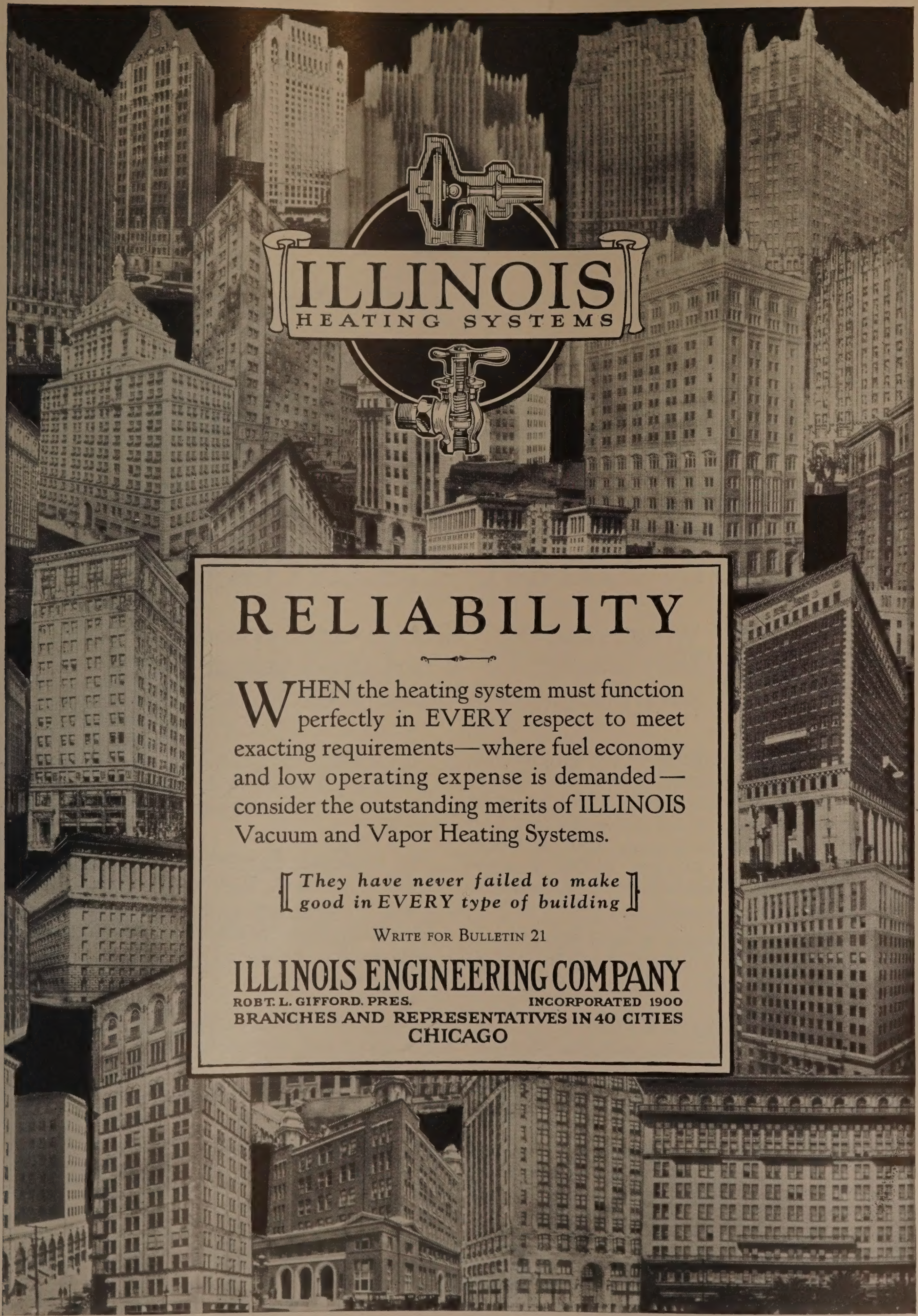

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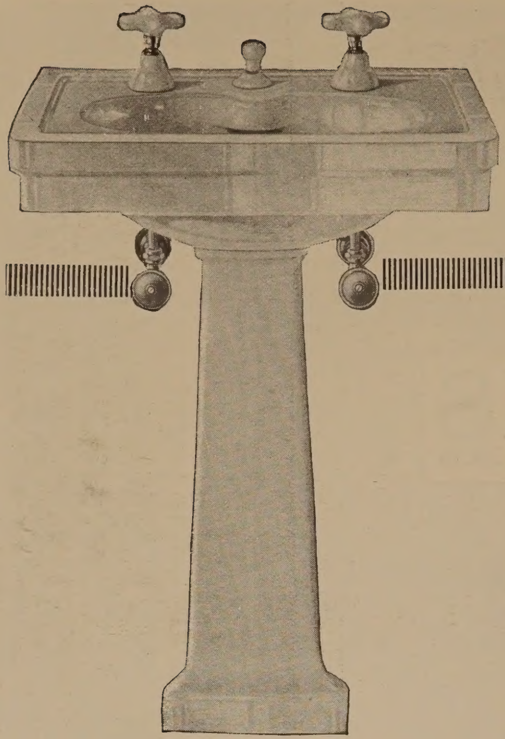

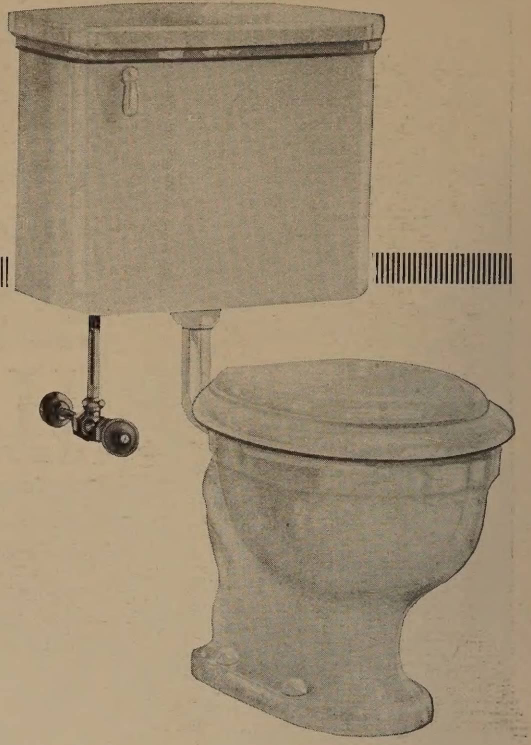

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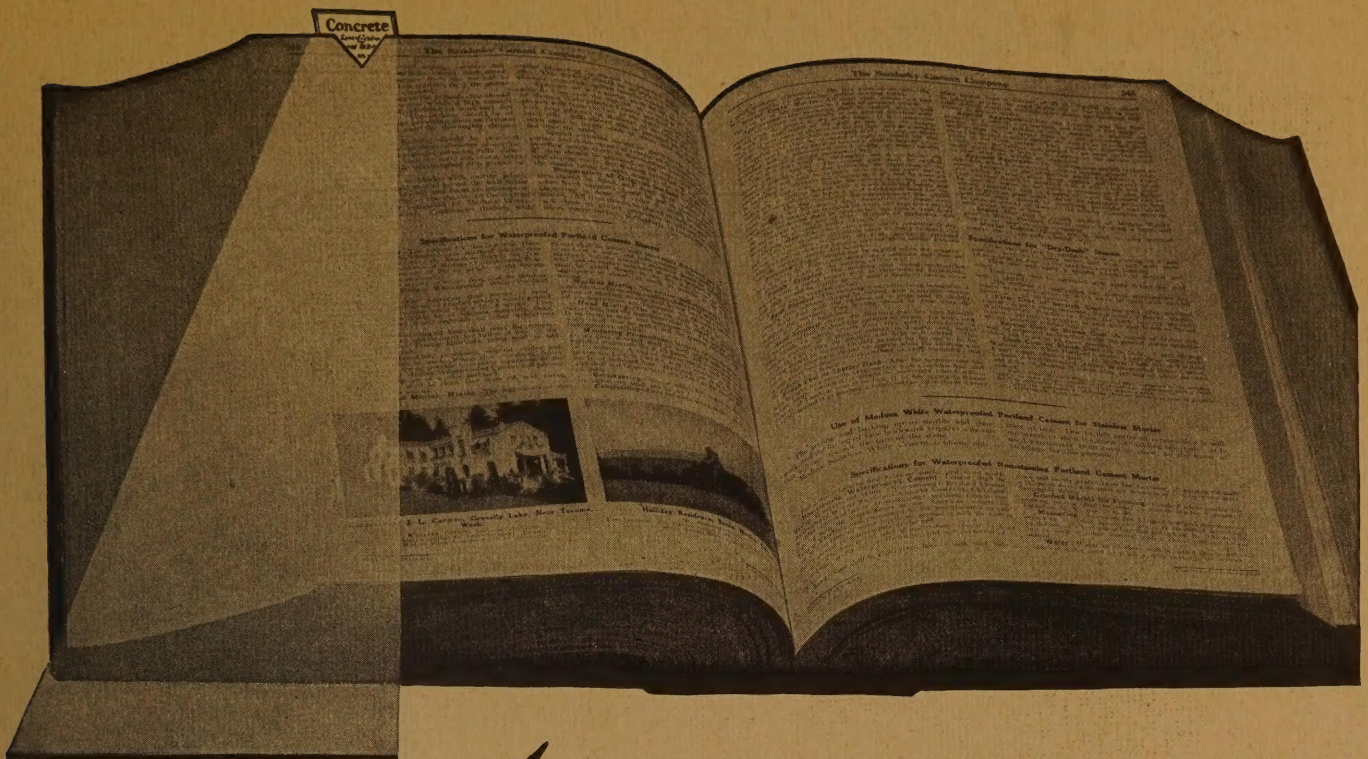

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